

2022 Spring Flood Outlook

U.S. Army Corps of Engineers - St. Louis District
Flood Preparedness Virtual Meeting #1
February 17, 2022

Darrin Hansing
Service Hydrologist
National Weather Service
WFO Lincoln, IL

Mark Fuchs
Service Hydrologist
National Weather Service
St. Louis, MO

Mary Lamm
Service Hydrologist
National Weather Service
Paducah, KY

NWS St. Louis



Bottom Line Up Front:

- Mississippi River: Minor flooding likely between Hannibal and Alton and from Chester through Cape Girardeau, but not likely upstream of Hannibal.
- Missouri River: Flooding not likely at any forecast point.
- Illinois River: Minor flooding likely by early May.
- Local tributaries: Near to below average flood risk, with flooding unlikely in most locations.

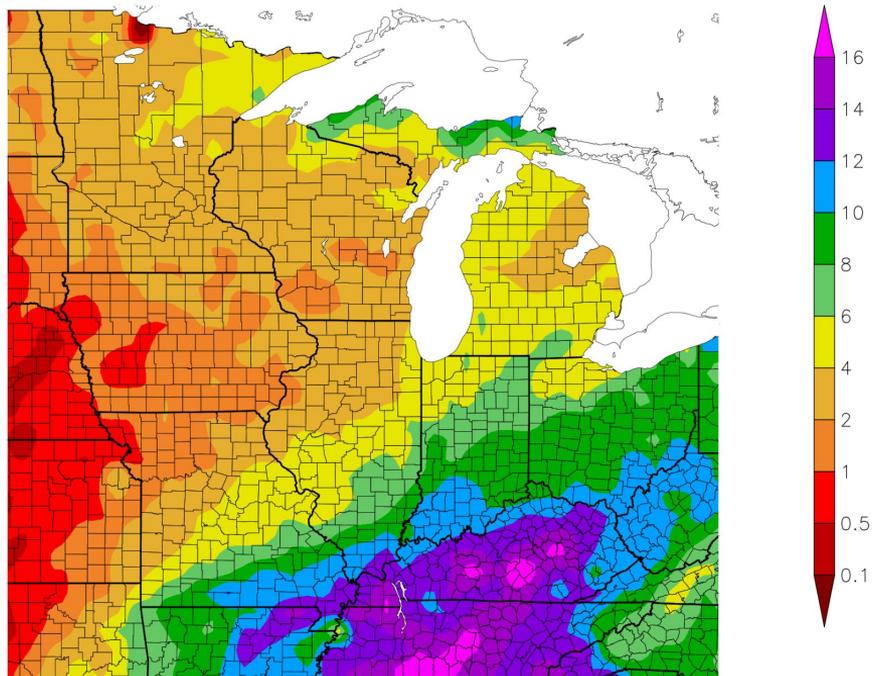
Factors we look at for spring flooding:

- Recent precipitation in major river basins
- Snowpack in major river basins
- Soil moisture in area basins
- Current flow in area rivers



Spring Flood Outlook 2022

Precipitation (in)
11/19/2021 - 2/16/2022



Generated 2/17/2022 at HPRCC using provisional data.

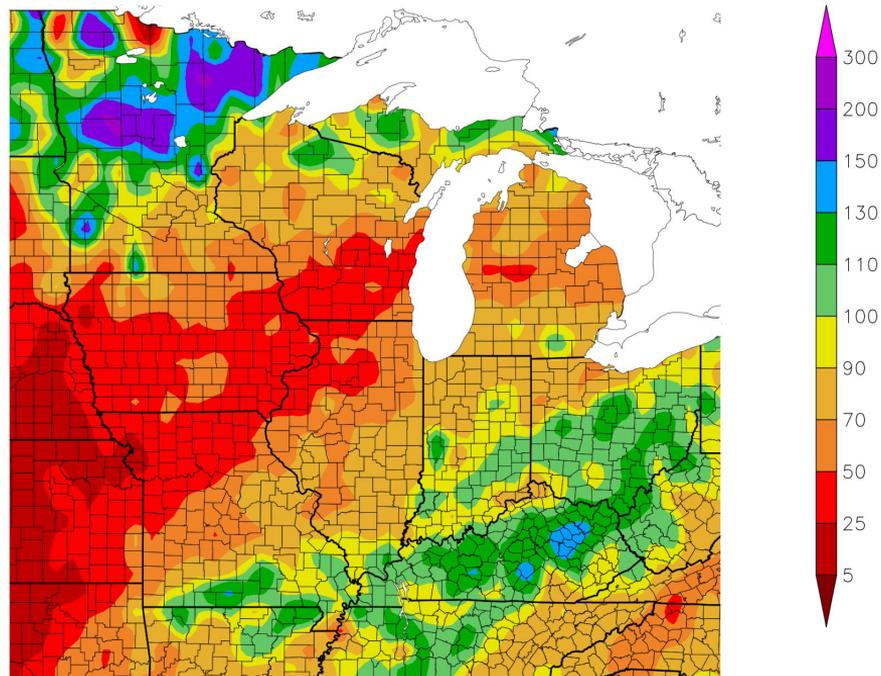
NOAA Regional Climate Centers

NWS St. Louis



Spring Flood Outlook 2022

Percent of Normal Precipitation (%)
11/19/2021 – 2/16/2022



Generated 2/17/2022 at HPRCC using provisional data.

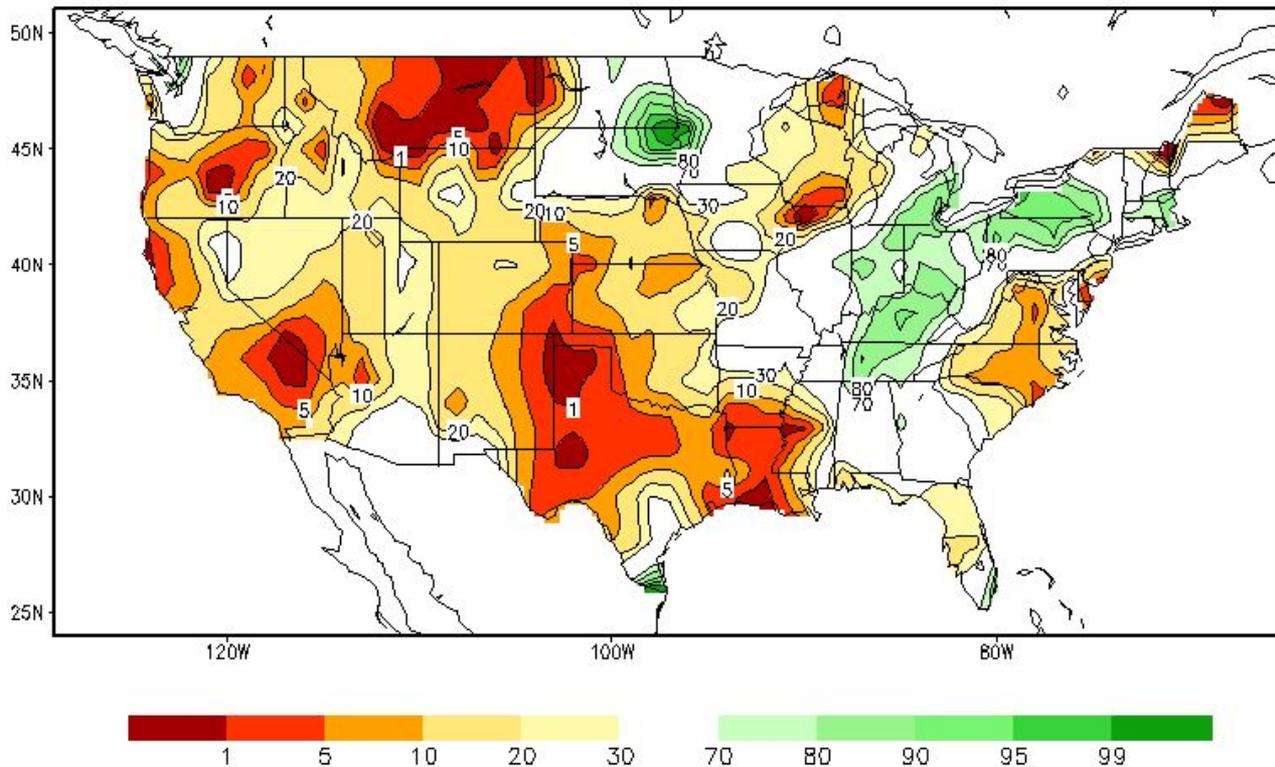
NOAA Regional Climate Centers

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Spring Flood Outlook 2022 - Soil Moisture Percentiles

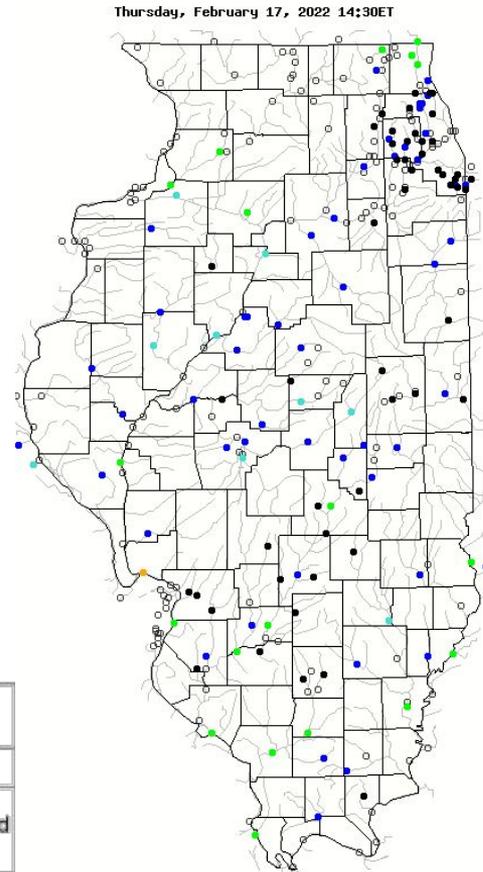
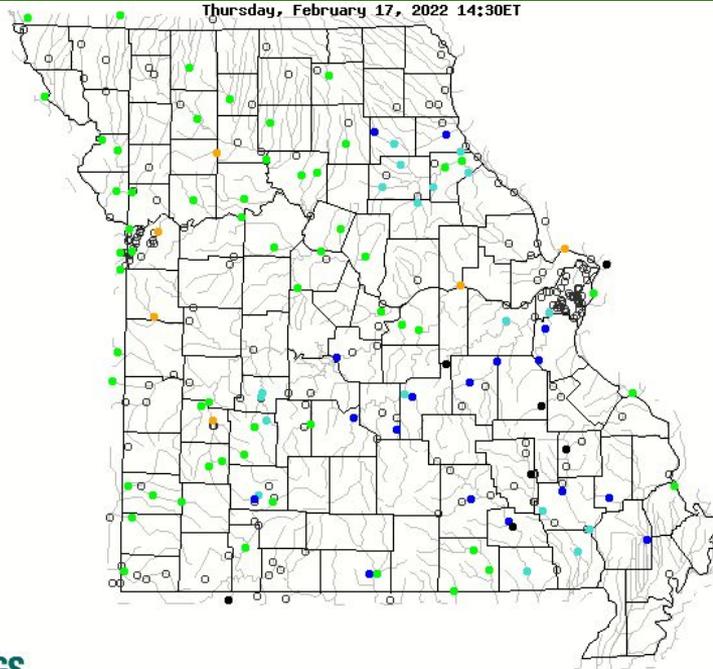
Calculated Soil Moisture Ranking Percentile
FEB 16, 2022



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USGS Streamflow Percentiles



Explanation - Percentile classes

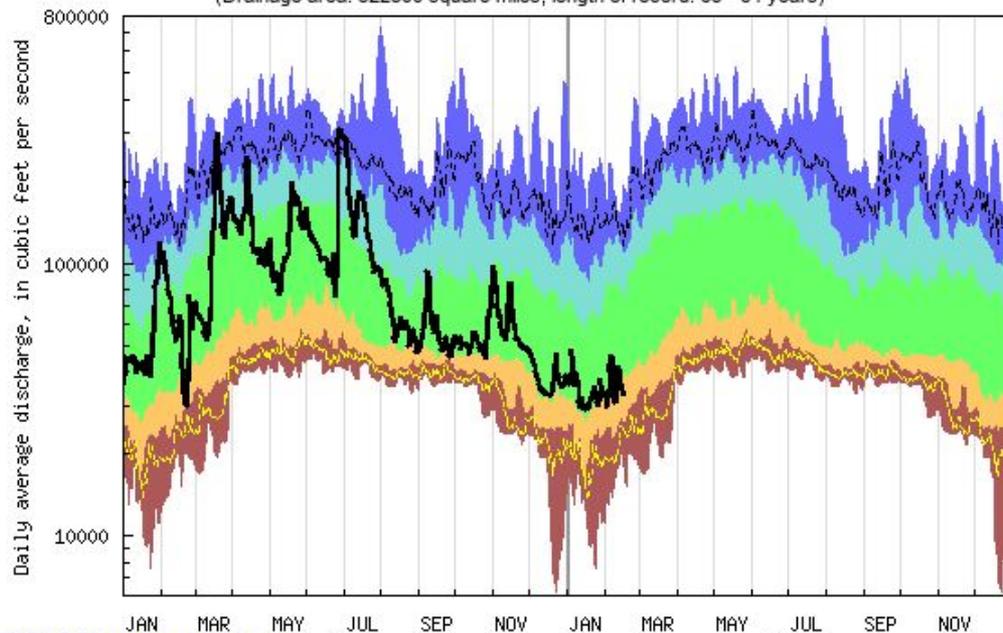
							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

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Missouri River at Hermann, MO

USGS 06934500 Missouri River at Hermann, MO
 (Drainage area: 522500 square miles, length of record: 63 - 64 years)



USGS WaterWatch

2021

2022

Last updated: 2022-02-17

Explanation - Percentile classes

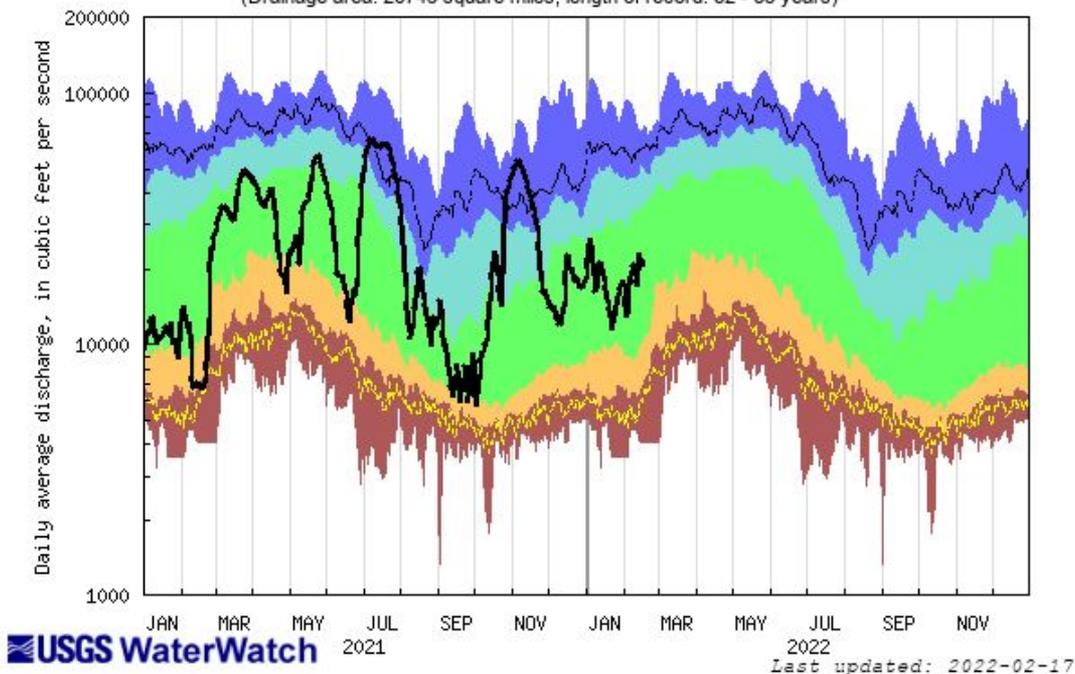
	-----				-----		
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest	Flow
	Much below Normal	Below normal	Normal	Above normal	Much above normal		

NWS St. Louis



Illinois River at Valley City, IL

USGS 05586100 ILLINOIS RIVER AT VALLEY CITY, IL
(Drainage area: 26743 square miles, length of record: 82 - 83 years)



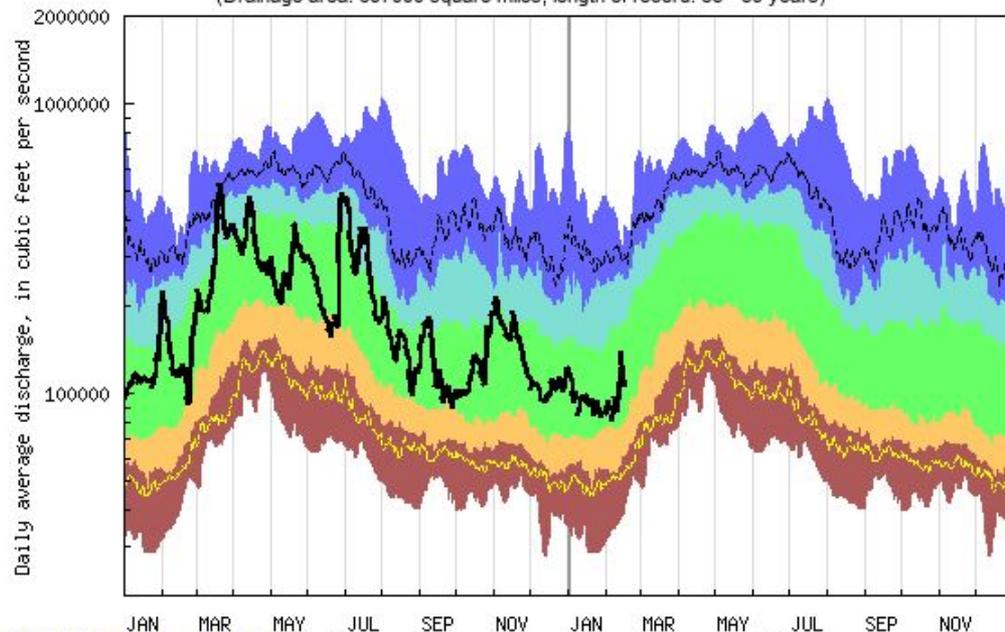
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

NWS St. Louis



Mississippi River at St. Louis, MO

USGS 07010000 Mississippi River at St. Louis, MO
 (Drainage area: 697000 square miles, length of record: 88 - 89 years)



USGS WaterWatch

2021

2022

Last updated: 2022-02-17

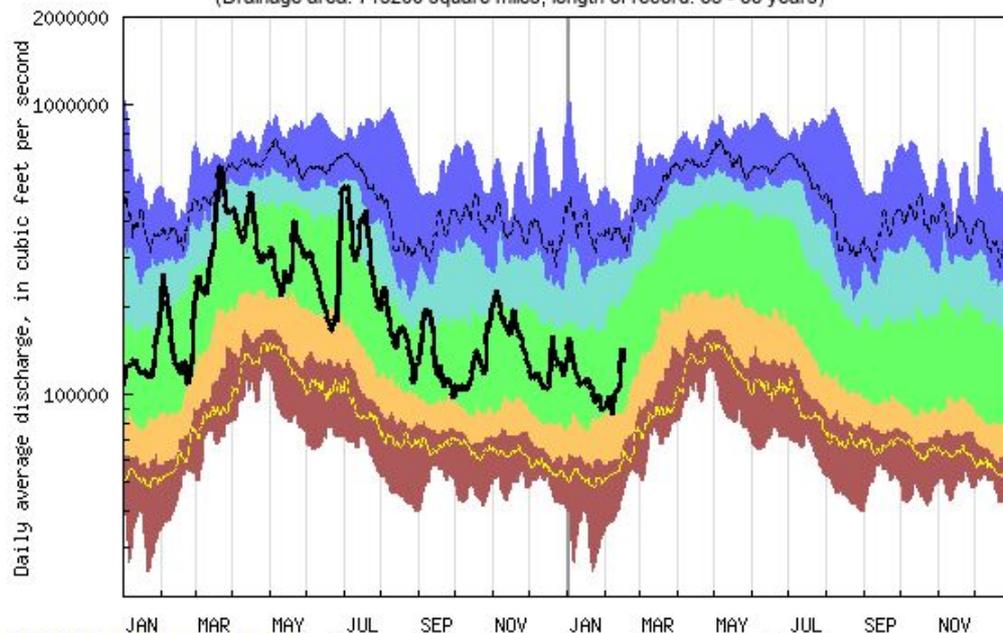
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

NWS St. Louis



Mississippi River at Thebes, MO

USGS 07022000 Mississippi River at Thebes, IL
 (Drainage area: 713200 square miles, length of record: 85 - 86 years)



USGS WaterWatch

Last updated: 2022-02-17

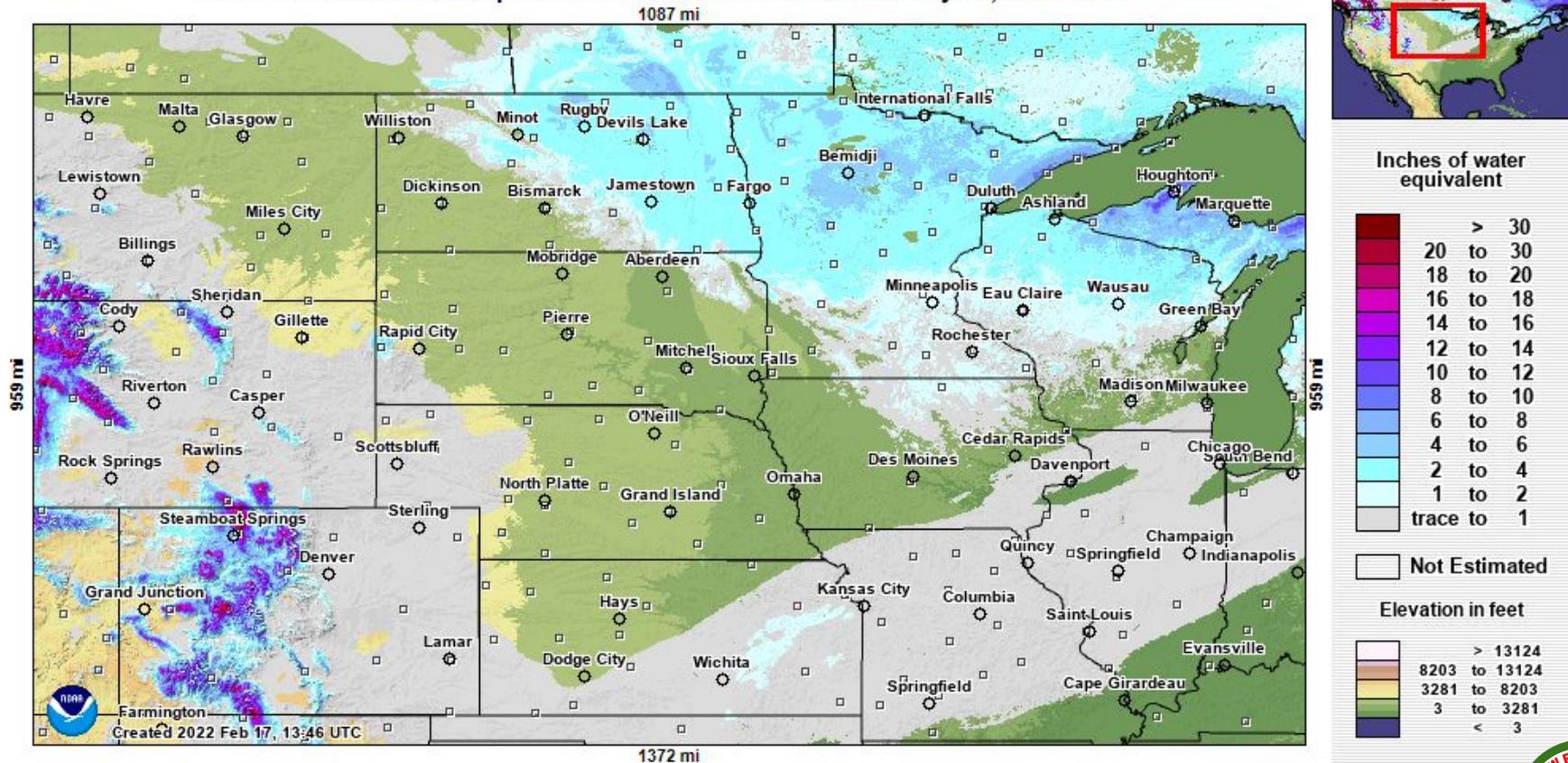
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

NWS St. Louis



Spring Flood Outlook 2022

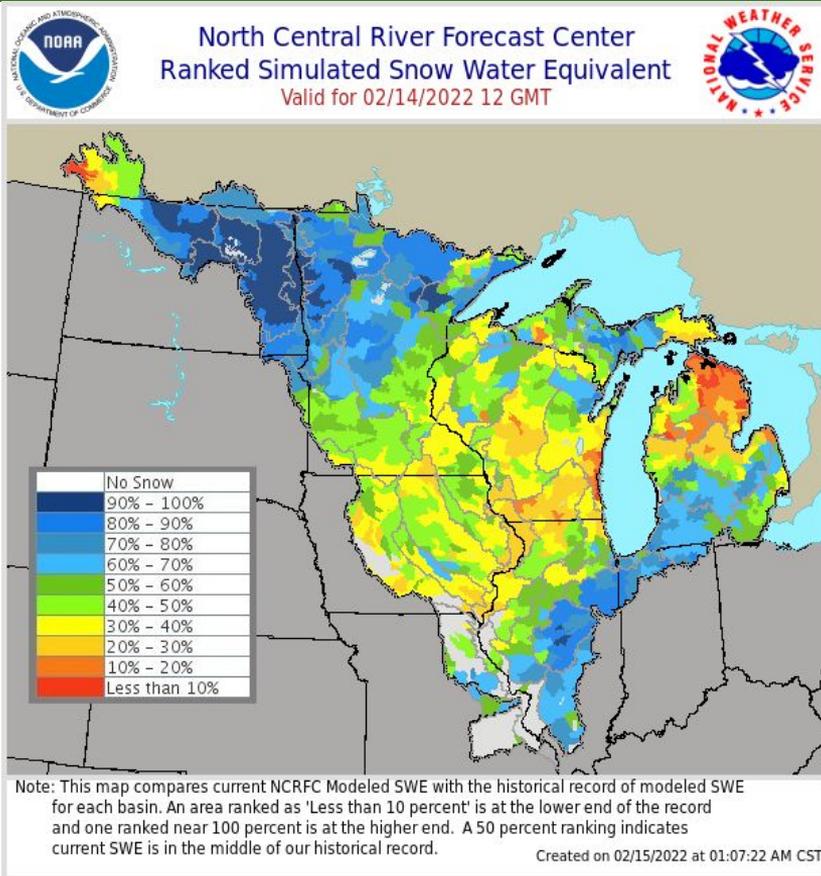
Modeled Snow Water Equivalent forecasted for 2022 February 17, 20:00 UTC



NWS St. Louis



Spring Flood Outlook 2020



NWS St. Louis



6-10 Day Temperature Outlook

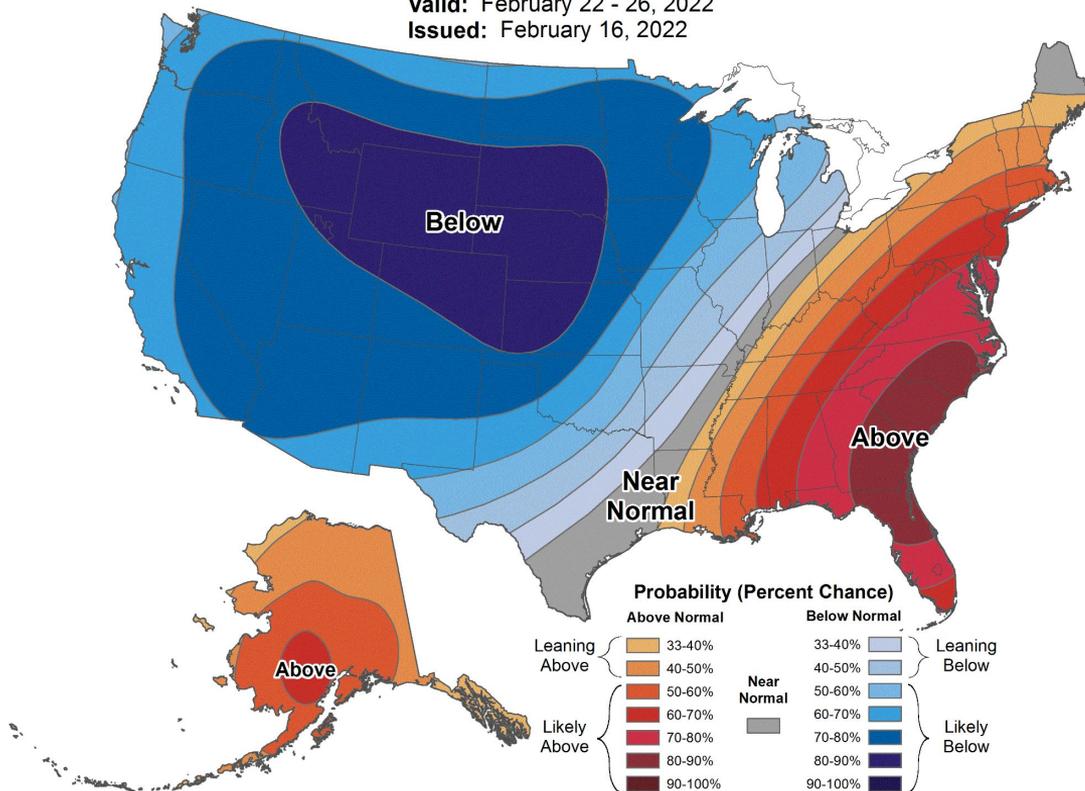


6-10 Day Temperature Outlook



Valid: February 22 - 26, 2022

Issued: February 16, 2022



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6-10 Day Precipitation Outlook

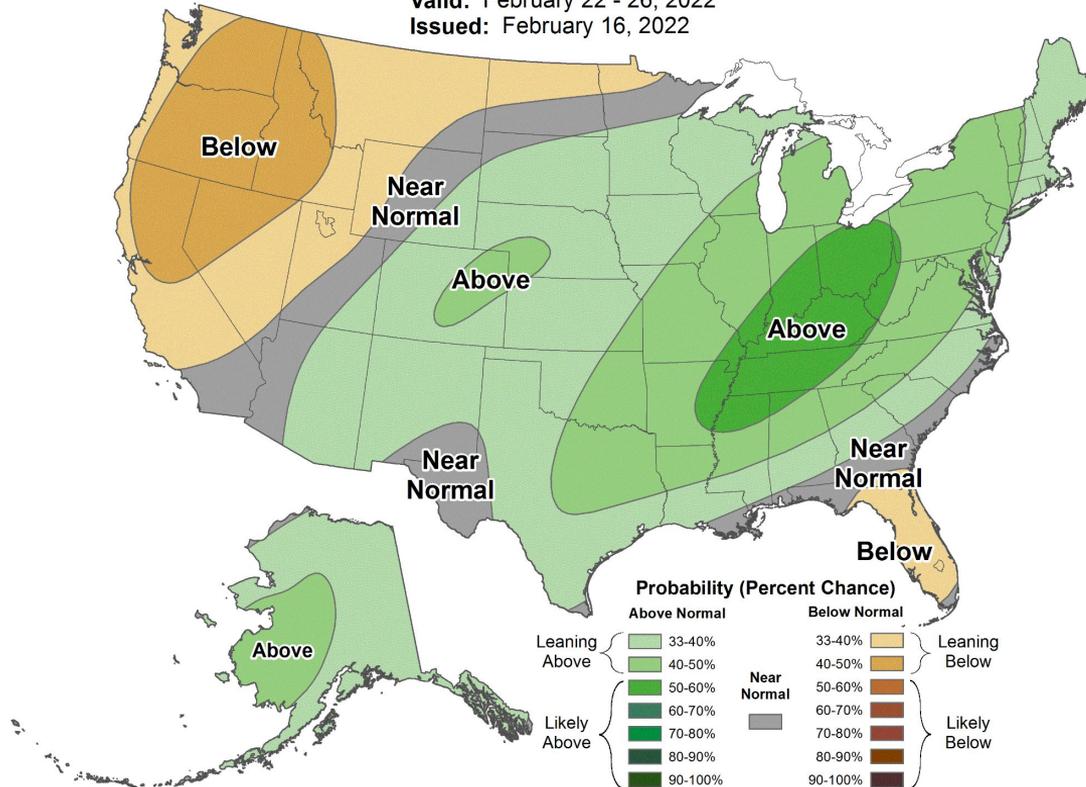


6-10 Day Precipitation Outlook



Valid: February 22 - 26, 2022

Issued: February 16, 2022



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8-14 Day Temperature Outlook

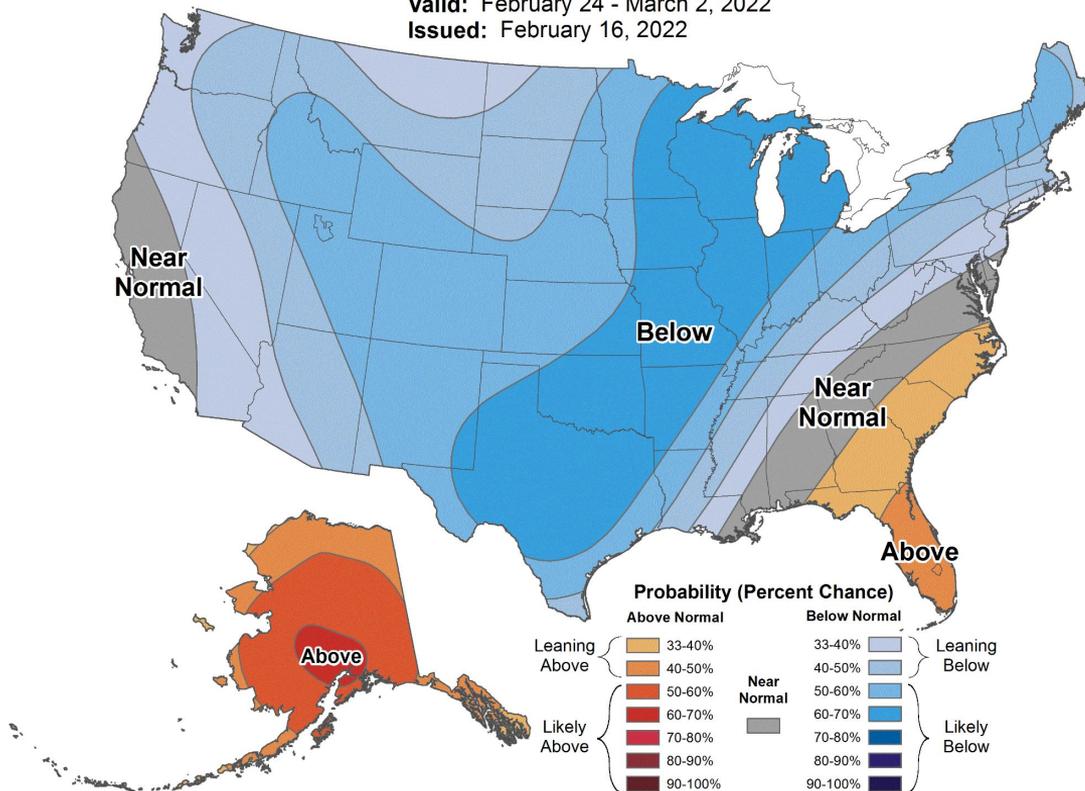


8-14 Day Temperature Outlook



Valid: February 24 - March 2, 2022

Issued: February 16, 2022



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8-14 Day Precipitation Outlook

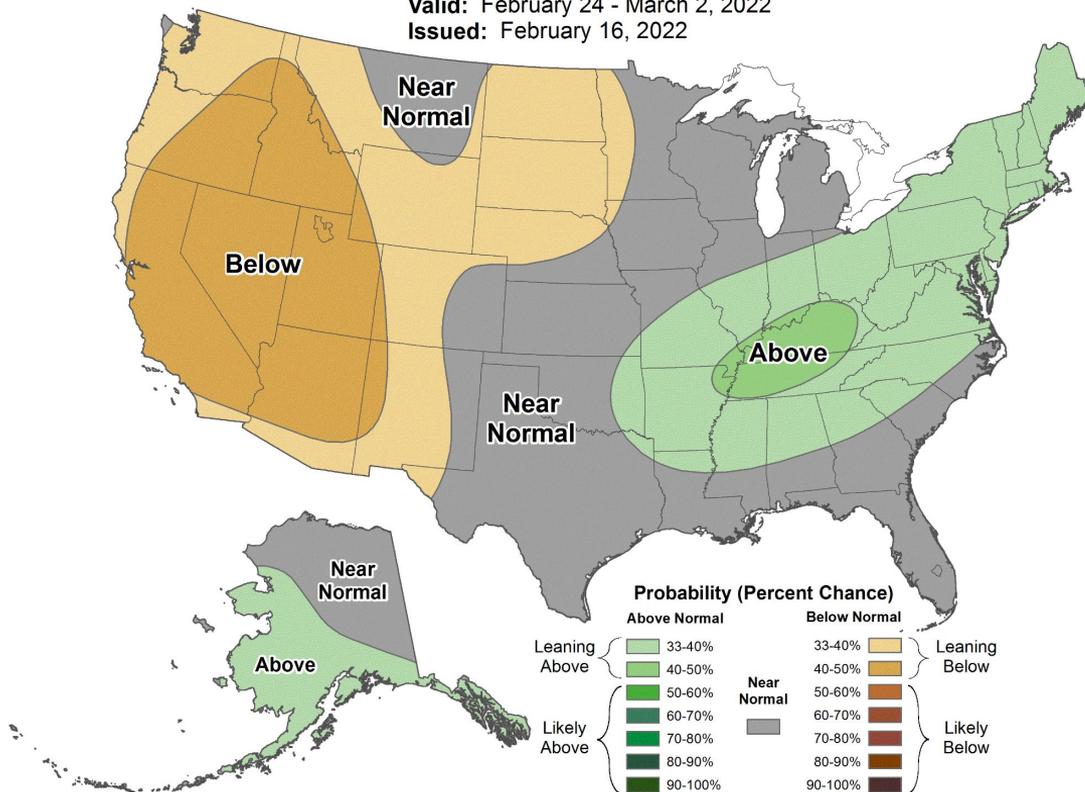


8-14 Day Precipitation Outlook



Valid: February 24 - March 2, 2022

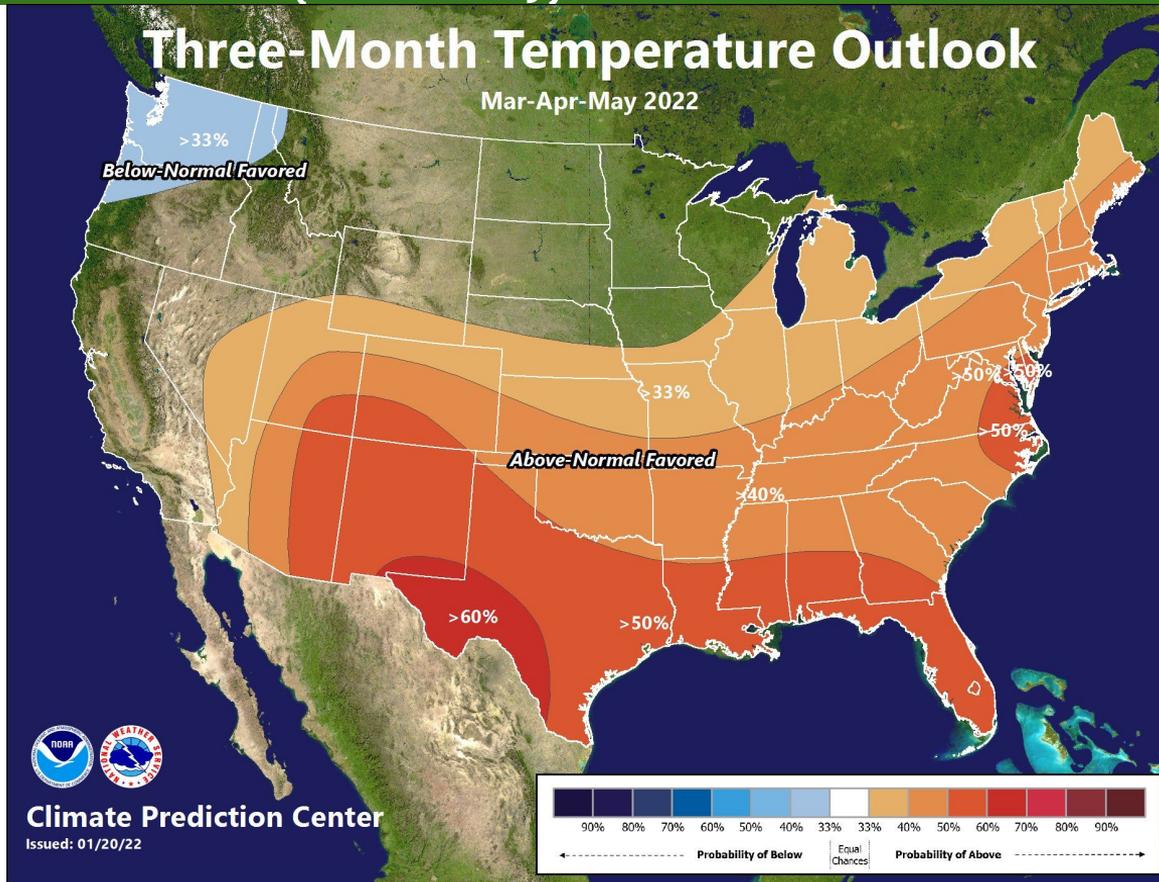
Issued: February 16, 2022



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90-Day Temperature Outlook (March-May)



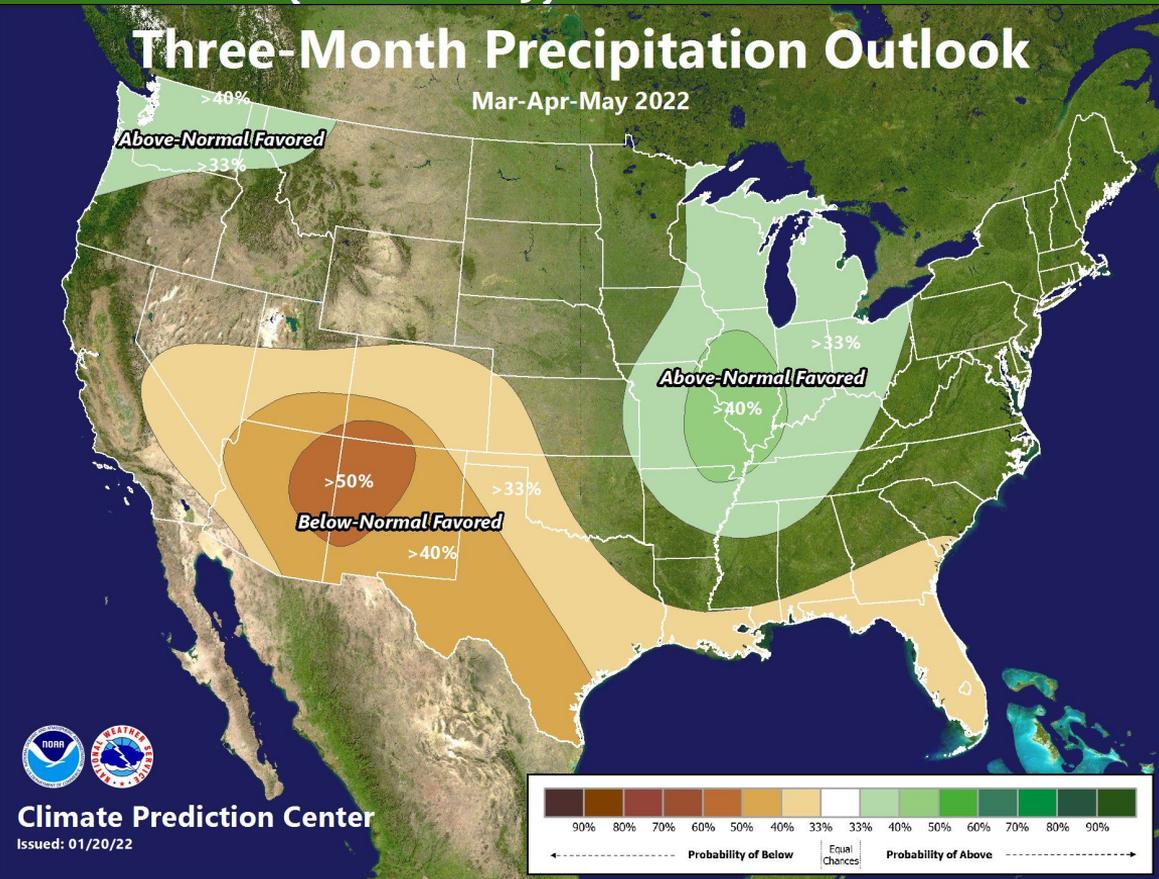
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90-Day Precipitation Outlook (March-May)

Three-Month Precipitation Outlook

Mar-Apr-May 2022



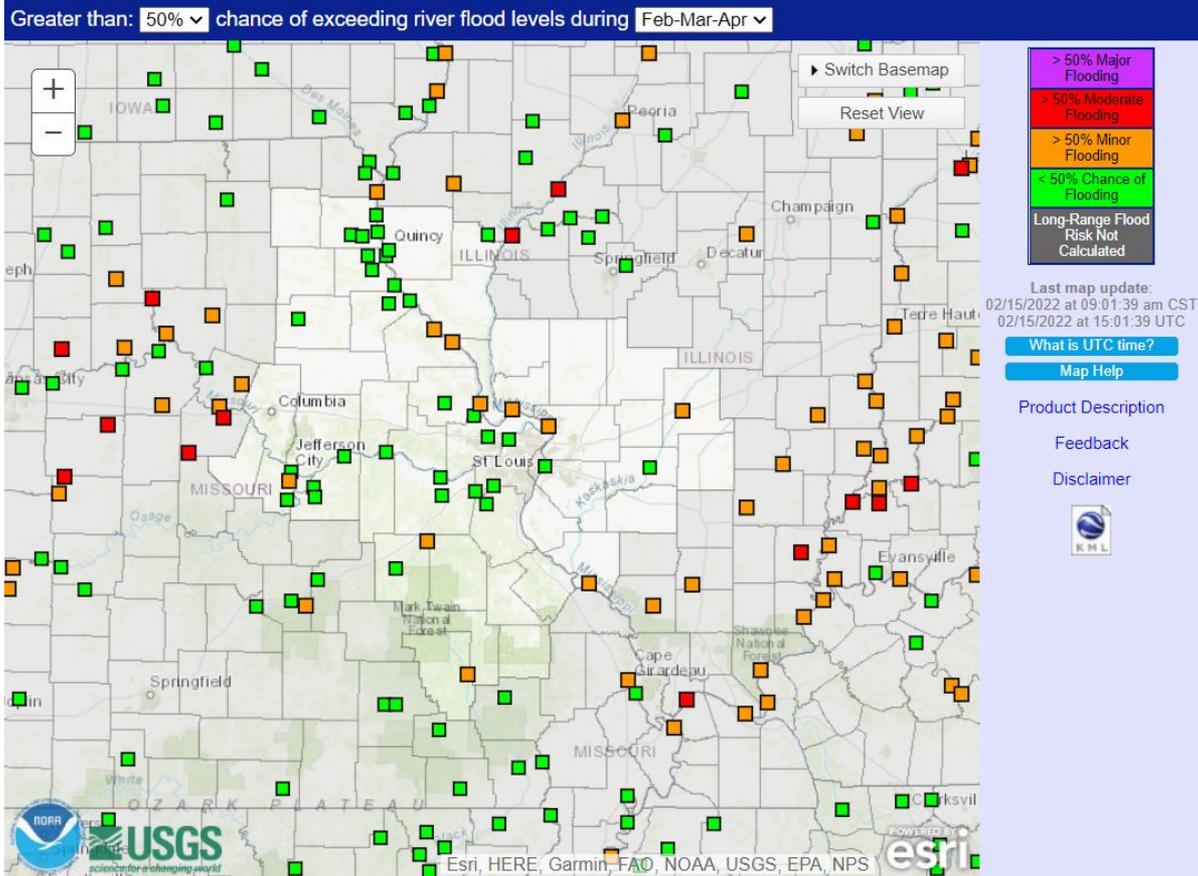
Climate Prediction Center

Issued: 01/20/22

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Spring Flood Outlook 2022



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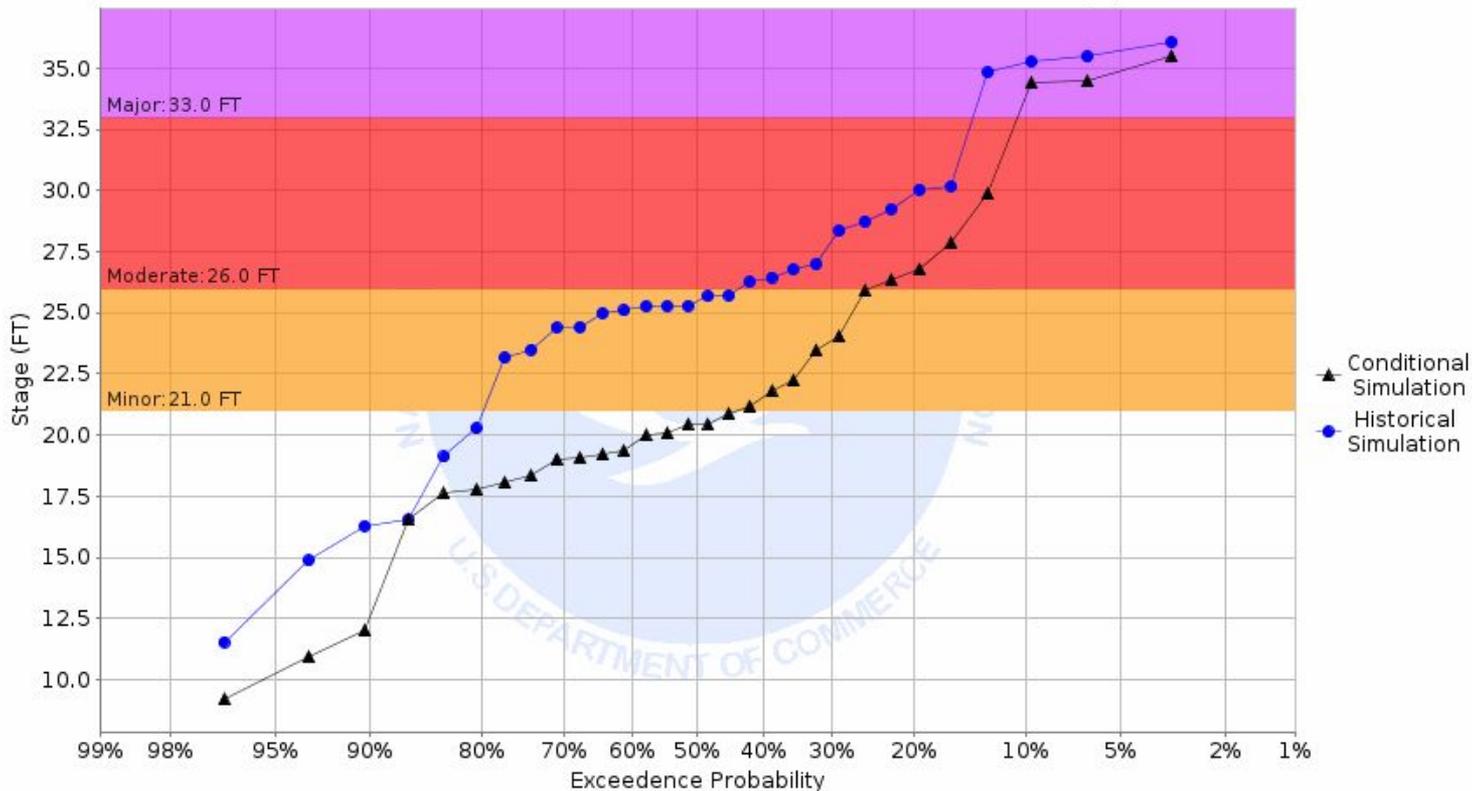


Spring Flood Outlook 2022 - Missouri River at Hermann, MO

Chance of Exceeding River Stage on the MISSOURI R at HERMANN MO MKC DCP

Forecast for the period 02/12/2022 - 05/13/2022

This is a conditional simulation based on the current conditions as of 02/07/2022



NWS St. Louis

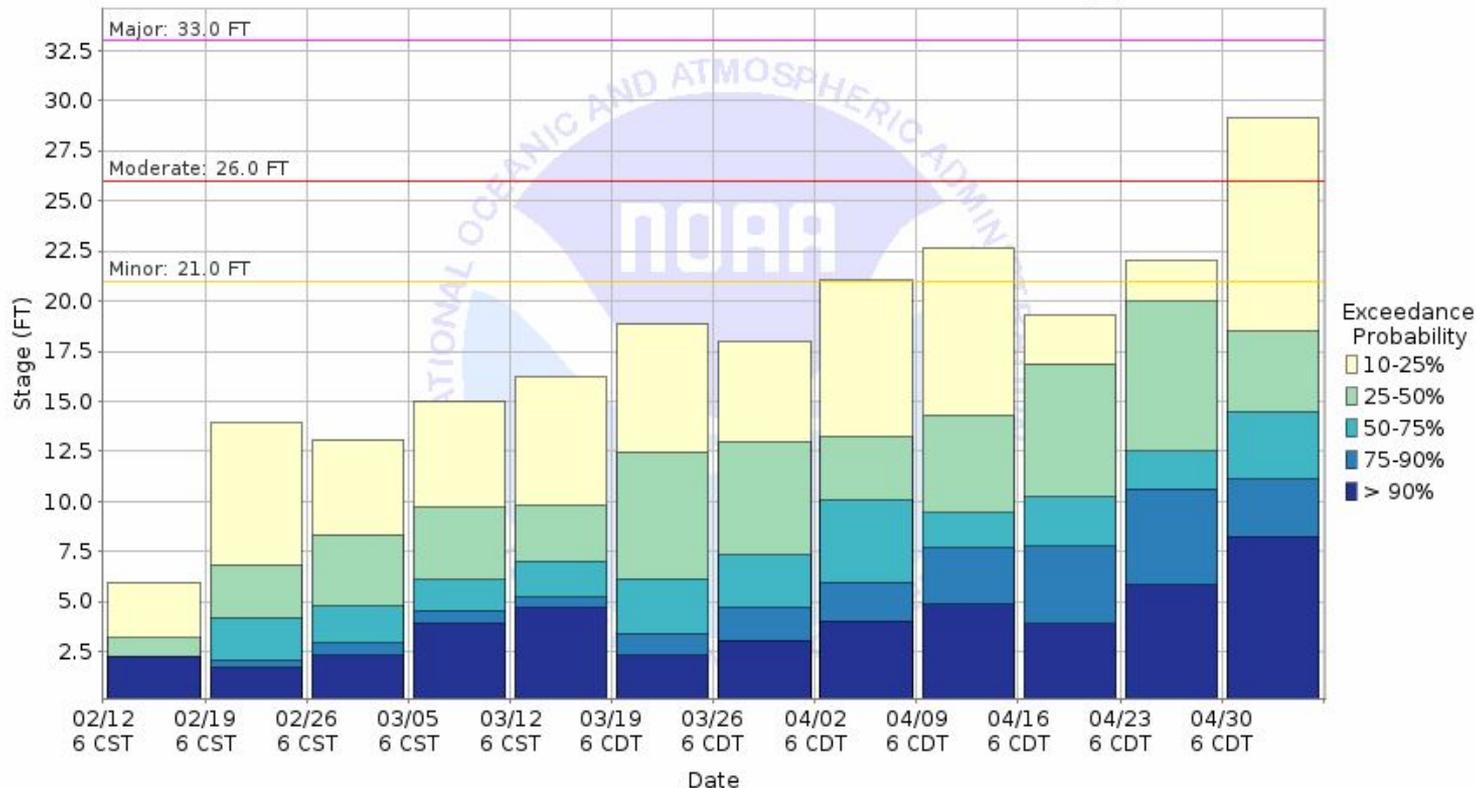


Spring Flood Outlook 2022 - Missouri River at Hermann, MO

Weekly Chance of Exceeding River Stage on the MISSOURI R at HERMANN MO MKC DCP

Forecast for the period 02/12/2022 - 05/07/2022

This is a conditional simulation based on the current conditions as of 02/07/2022



NWS St. Louis

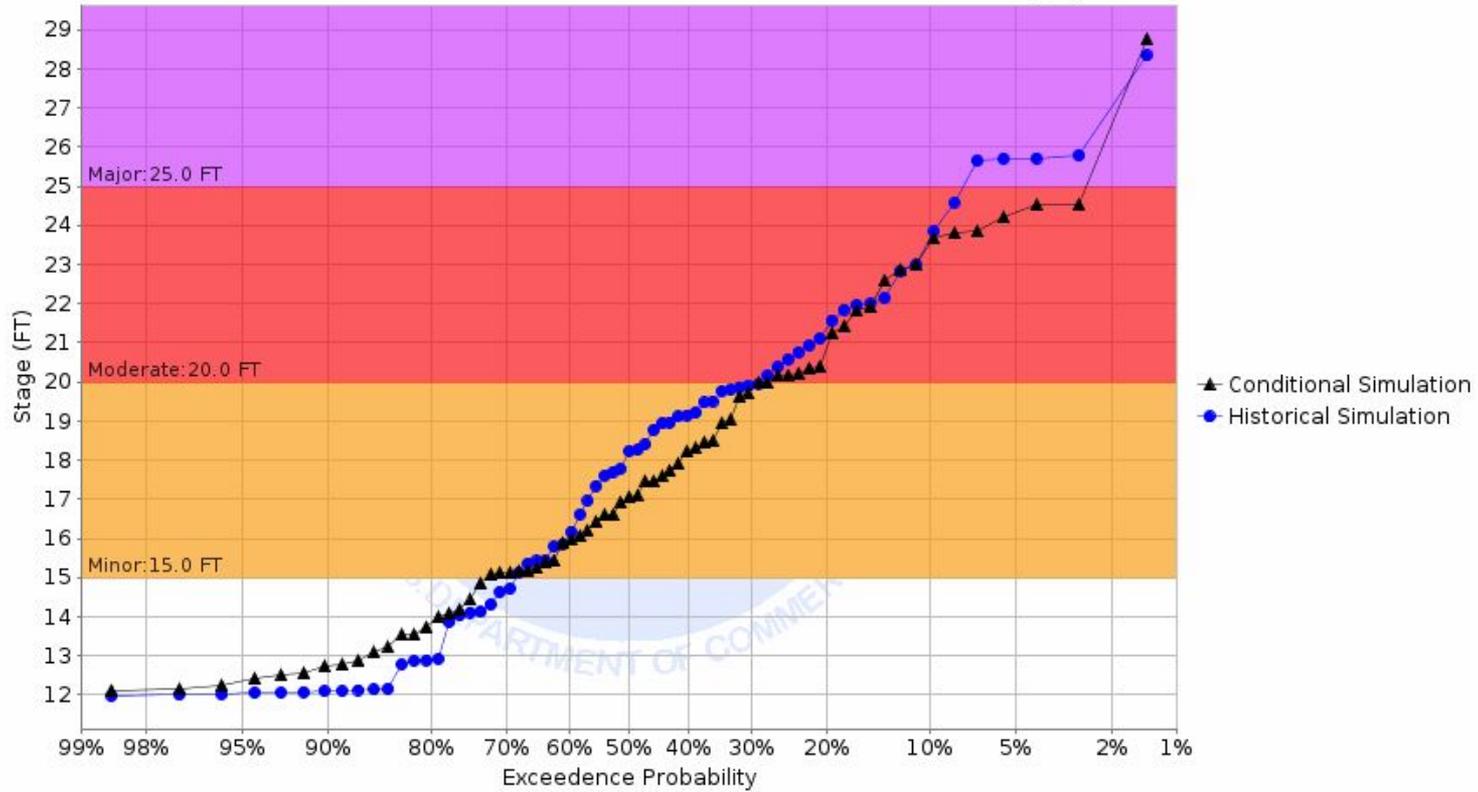


Spring Flood Outlook 2022 - Mississippi River at Louisiana, MO

Chance of Exceeding River Stage at Mississippi River at Louisiana WTP (LUSM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

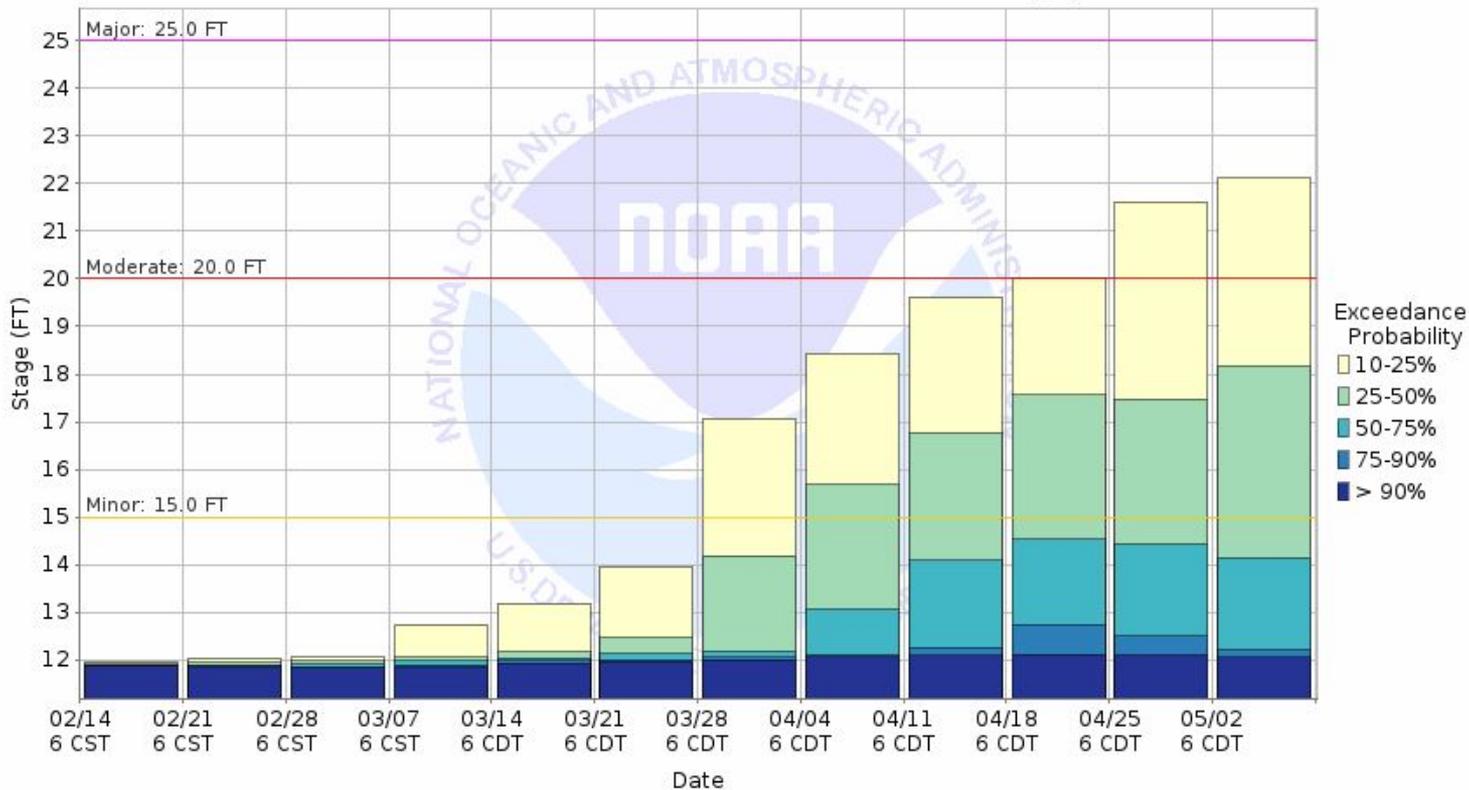


Spring Flood Outlook 2022 - Mississippi River at Louisiana, MO

Weekly Chance of Exceeding River Stage at Mississippi River at Louisiana WTP (LUSM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

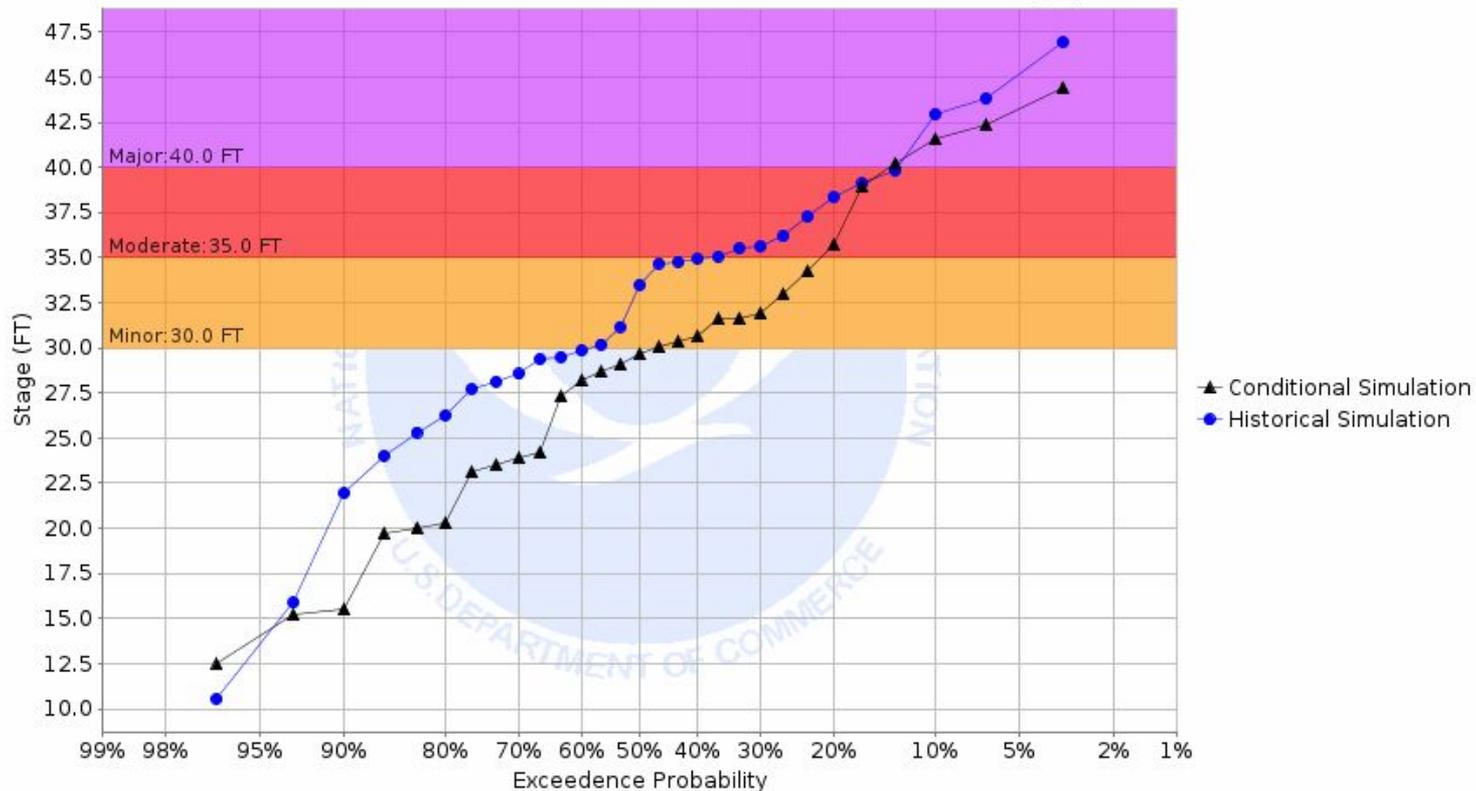


Spring Flood Outlook 2022 - Mississippi River at St. Louis, MO

Chance of Exceeding River Stage at Mississippi River at St. Louis (Eads Bridge) (EADM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

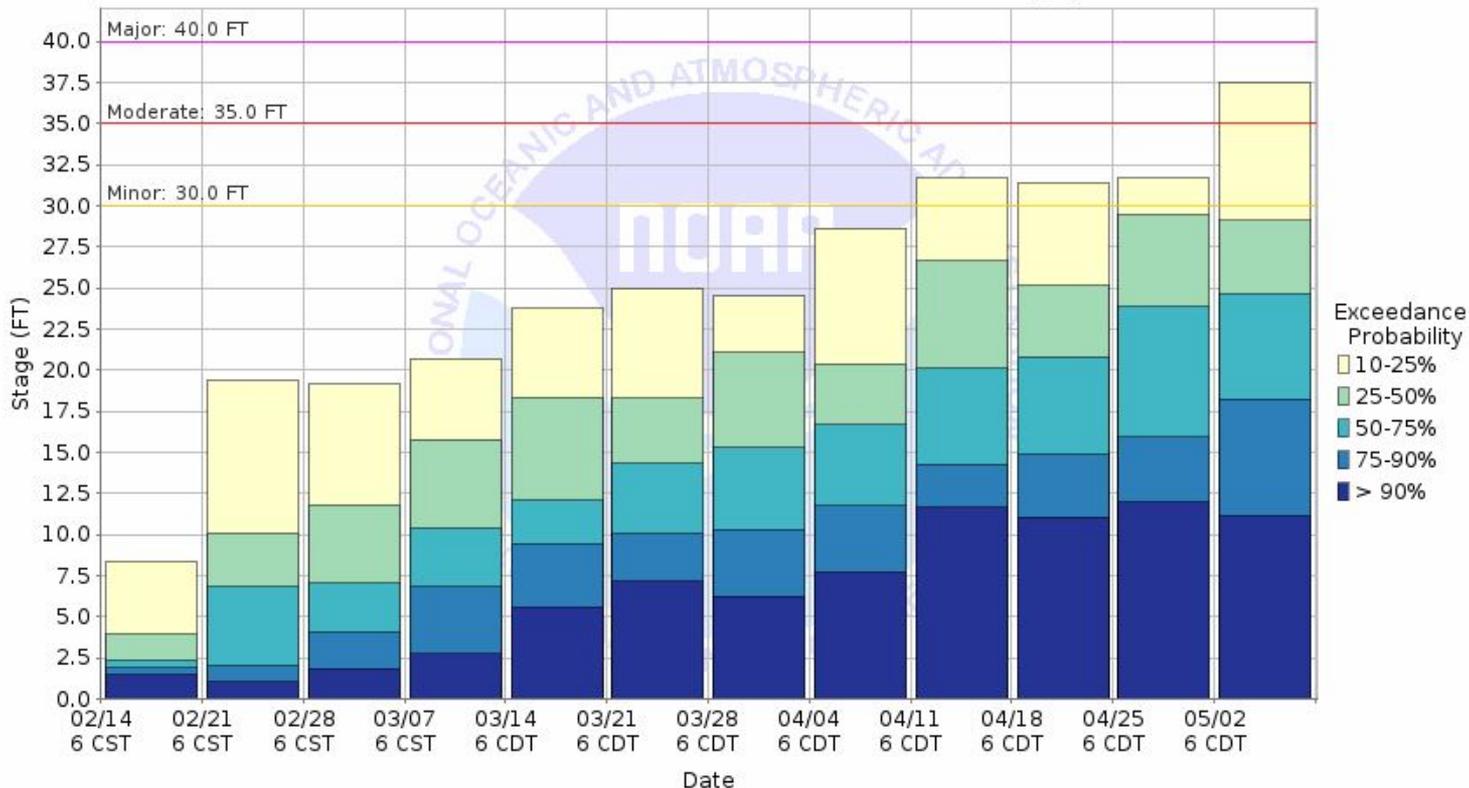


Spring Flood Outlook 2022 - Mississippi River at St. Louis, MO

Weekly Chance of Exceeding River Stage at Mississippi River at St. Louis (Eads Bridge) (EADM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

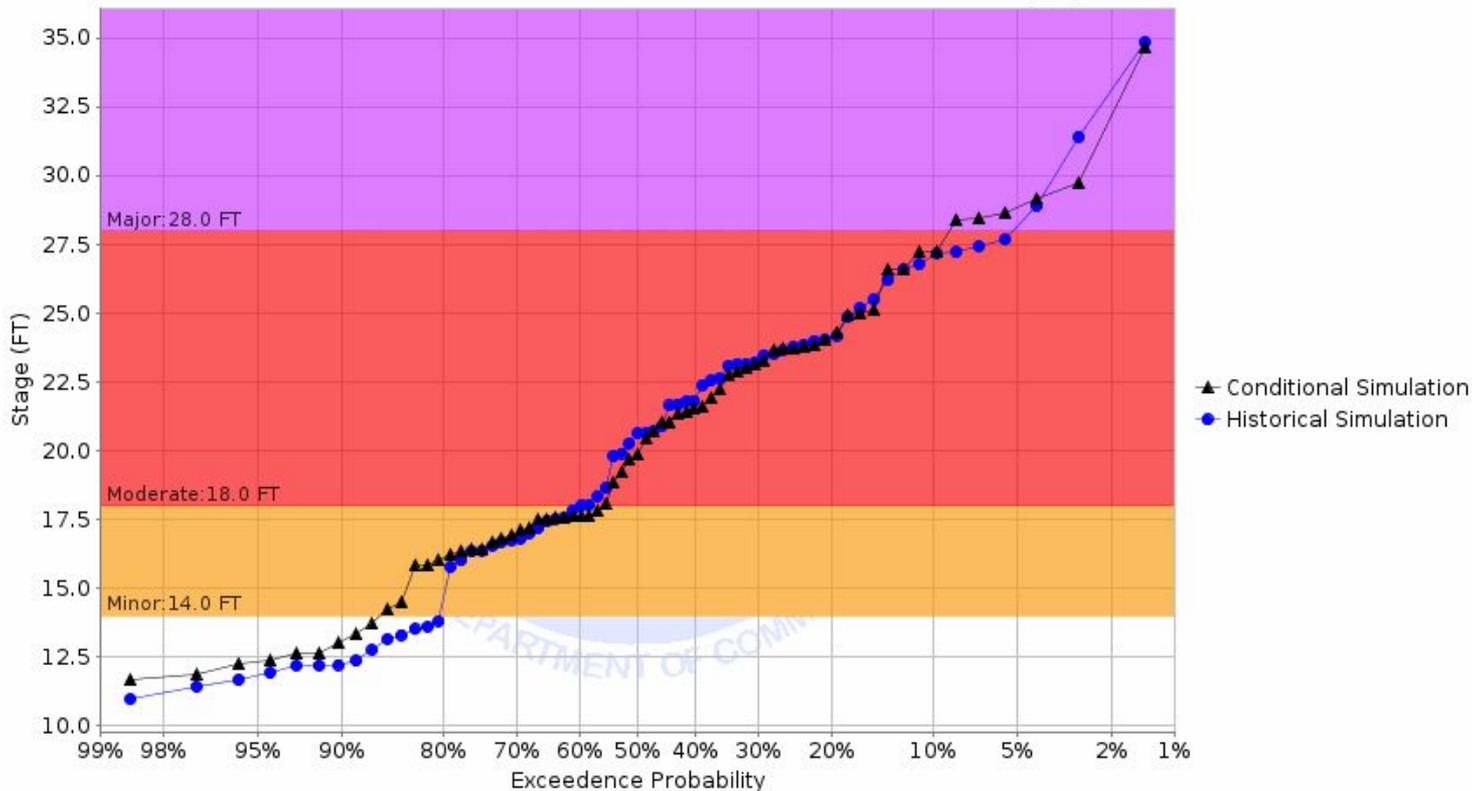


Spring Flood Outlook 2022 - Illinois River at Beardstown, IL

Chance of Exceeding River Stage at Illinois River at Beardstown (BEA12)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

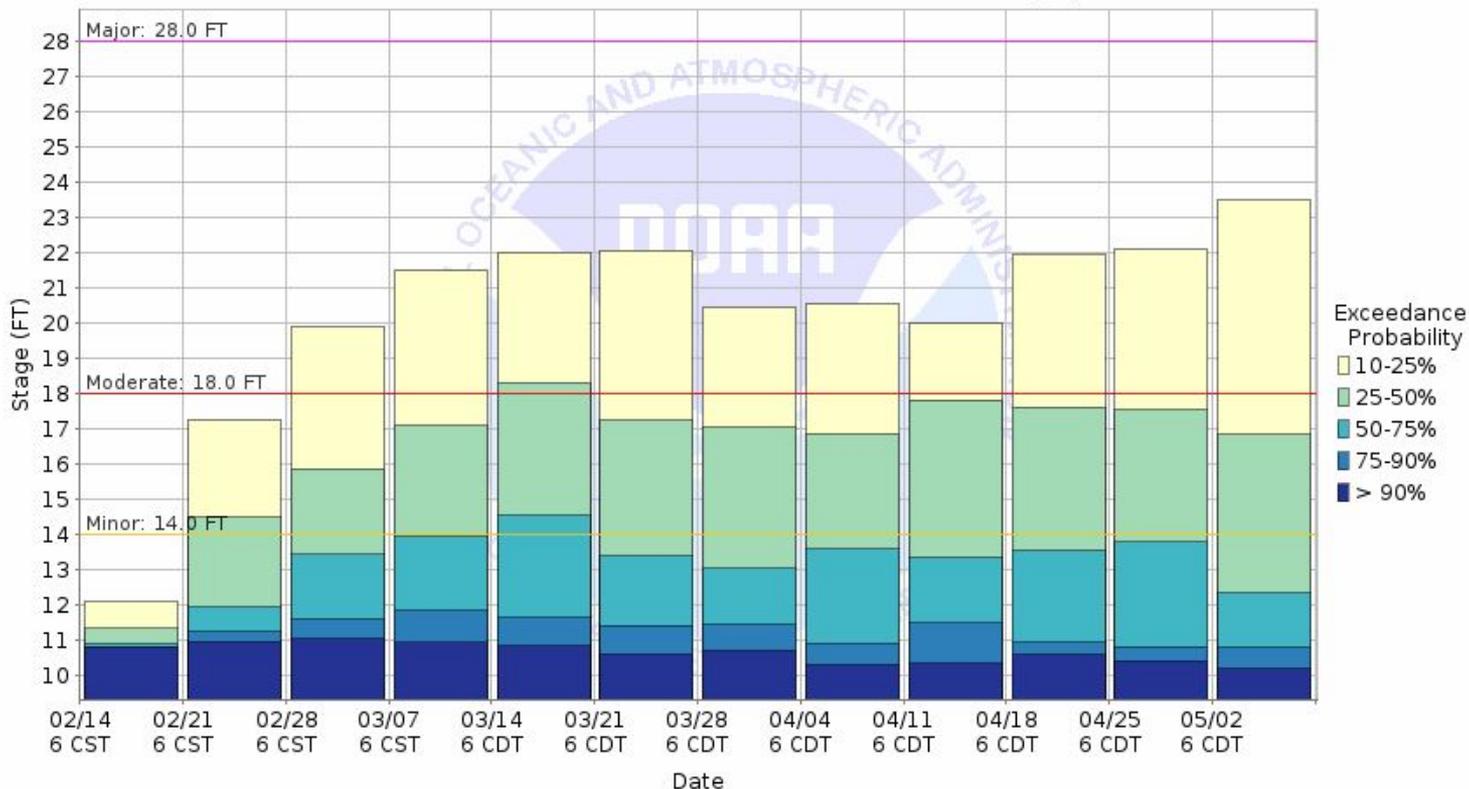


Spring Flood Outlook 2022 - Illinois River at Beardstown, IL

Weekly Chance of Exceeding River Stage at Illinois River at Beardstown (BEA12)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



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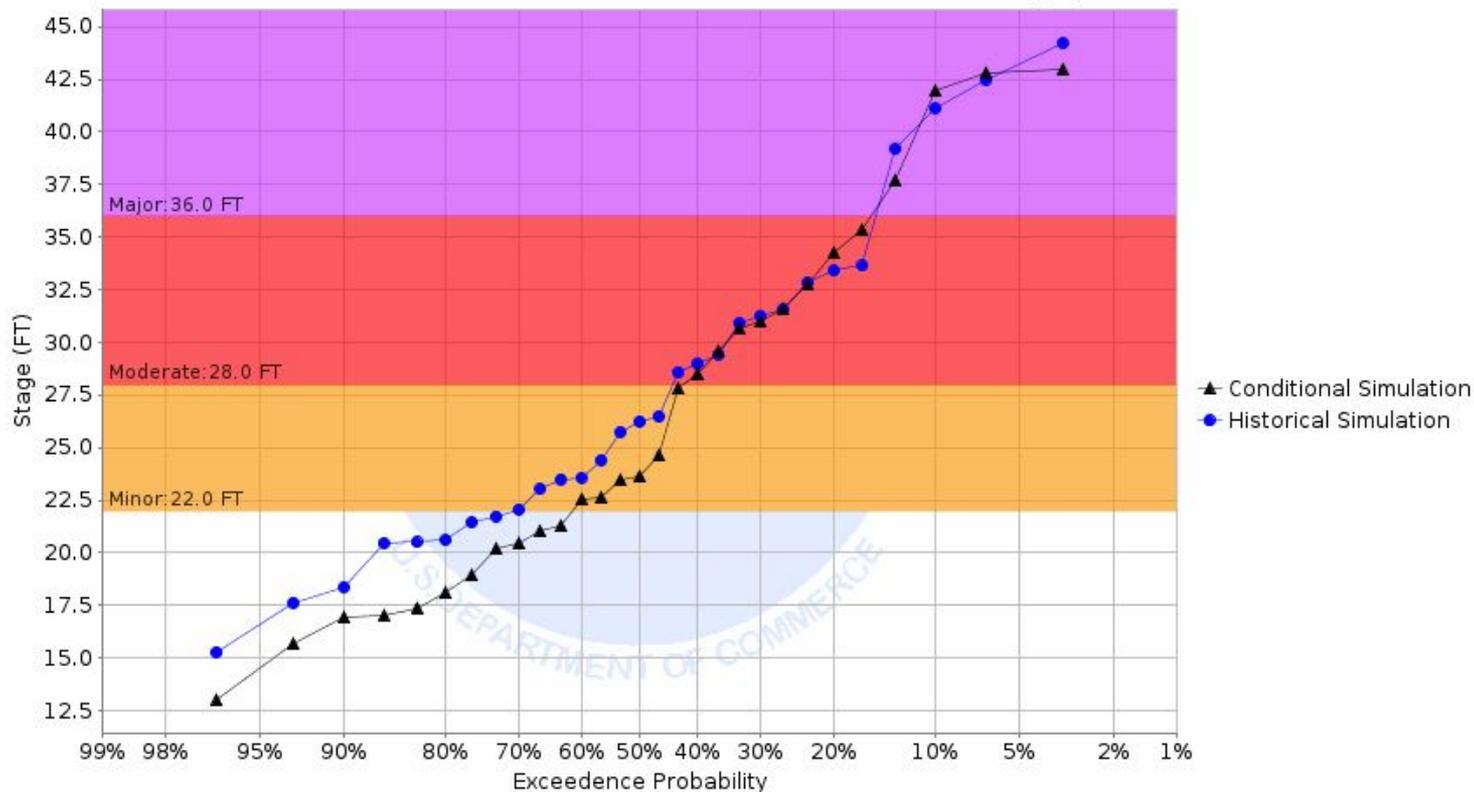


Spring Flood Outlook 2022 - Big Muddy River at Murphysboro, IL

Chance of Exceeding River Stage at Big Muddy River at Murphysboro 2SW-WWTP & Rte 127 (MURI2)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



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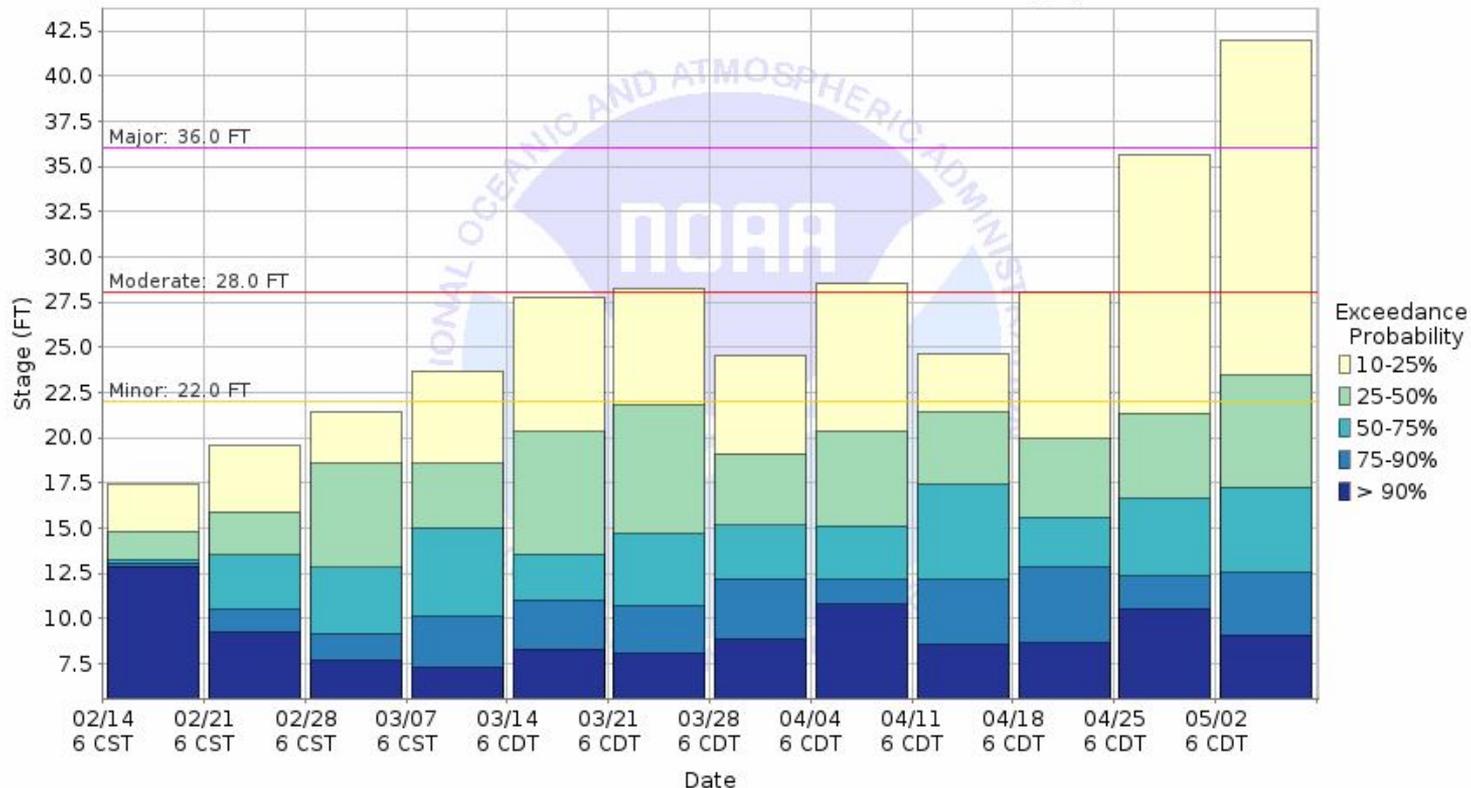


Spring Flood Outlook 2022 - Big Muddy River at Murphysboro, IL

Weekly Chance of Exceeding River Stage at Big Muddy River at Murphysboro 2SW-WWTP & Rte 127 (MURI2)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



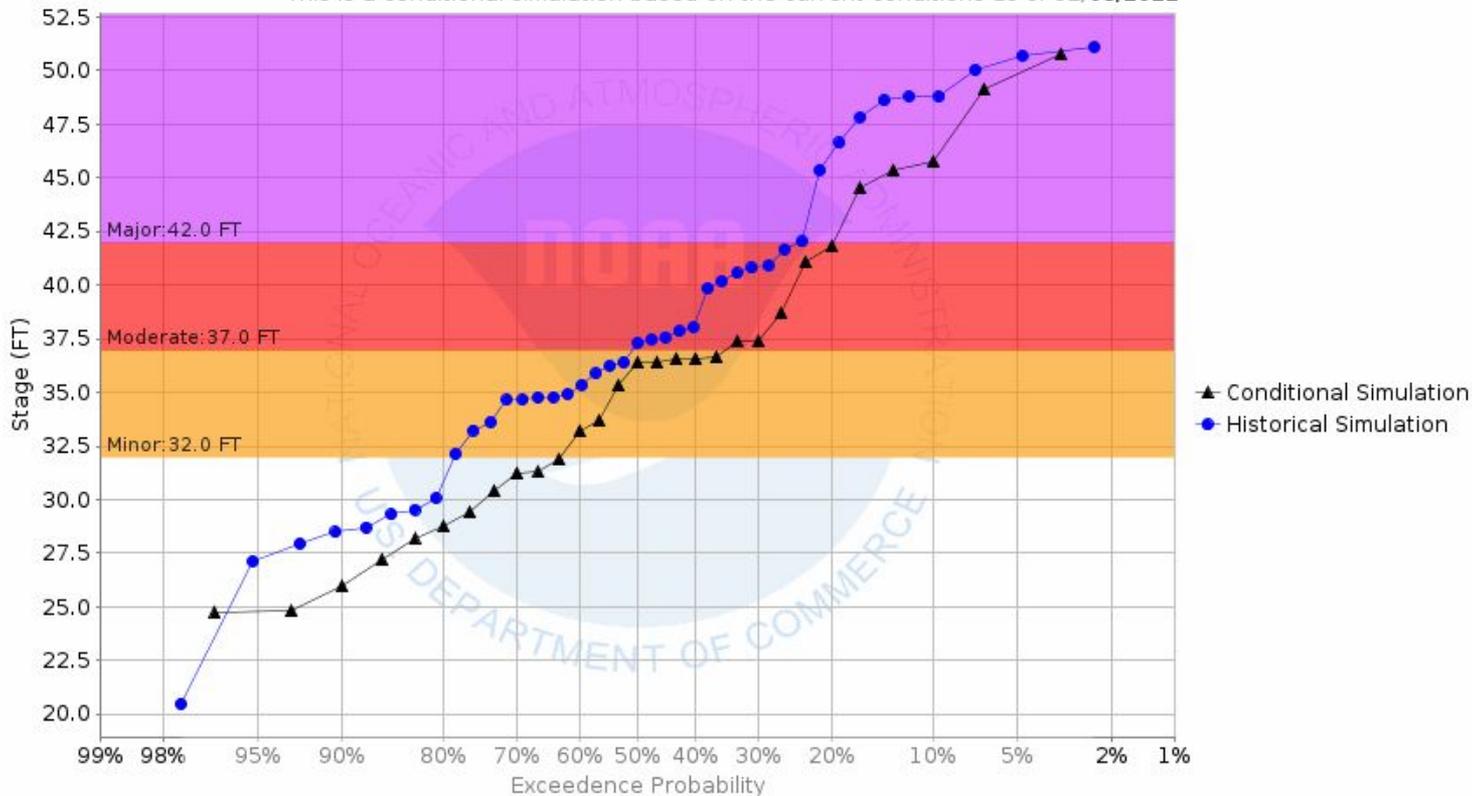
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Spring Flood Outlook 2022 - Mississippi River at Cape Girardeau, IL

Chance of Exceeding River Stage at CPGM7
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



NWS St. Louis

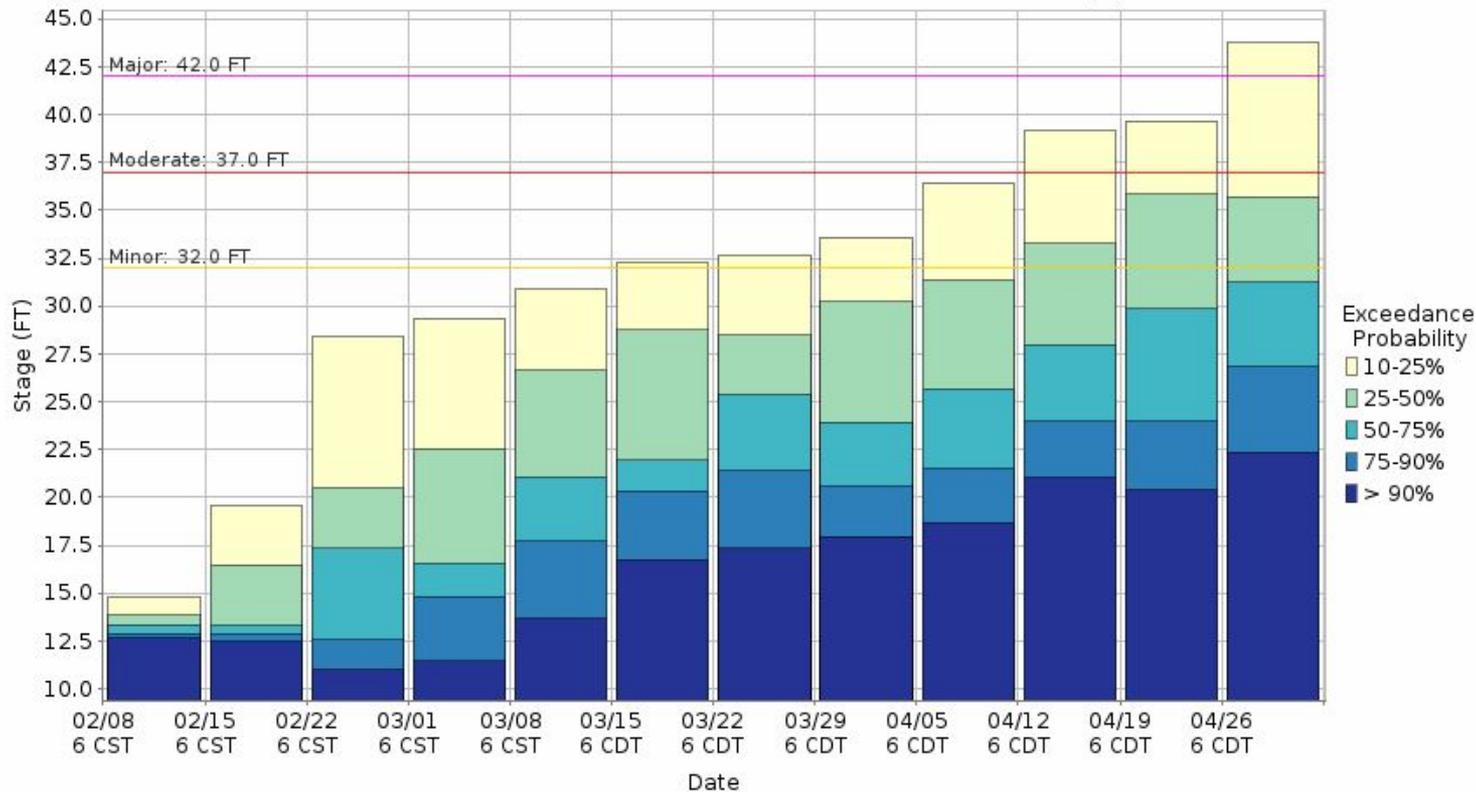


Spring Flood Outlook 2022 - Mississippi River at Cape Girardeau, IL

Weekly Chance of Exceeding River Stage at CPGM7

Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



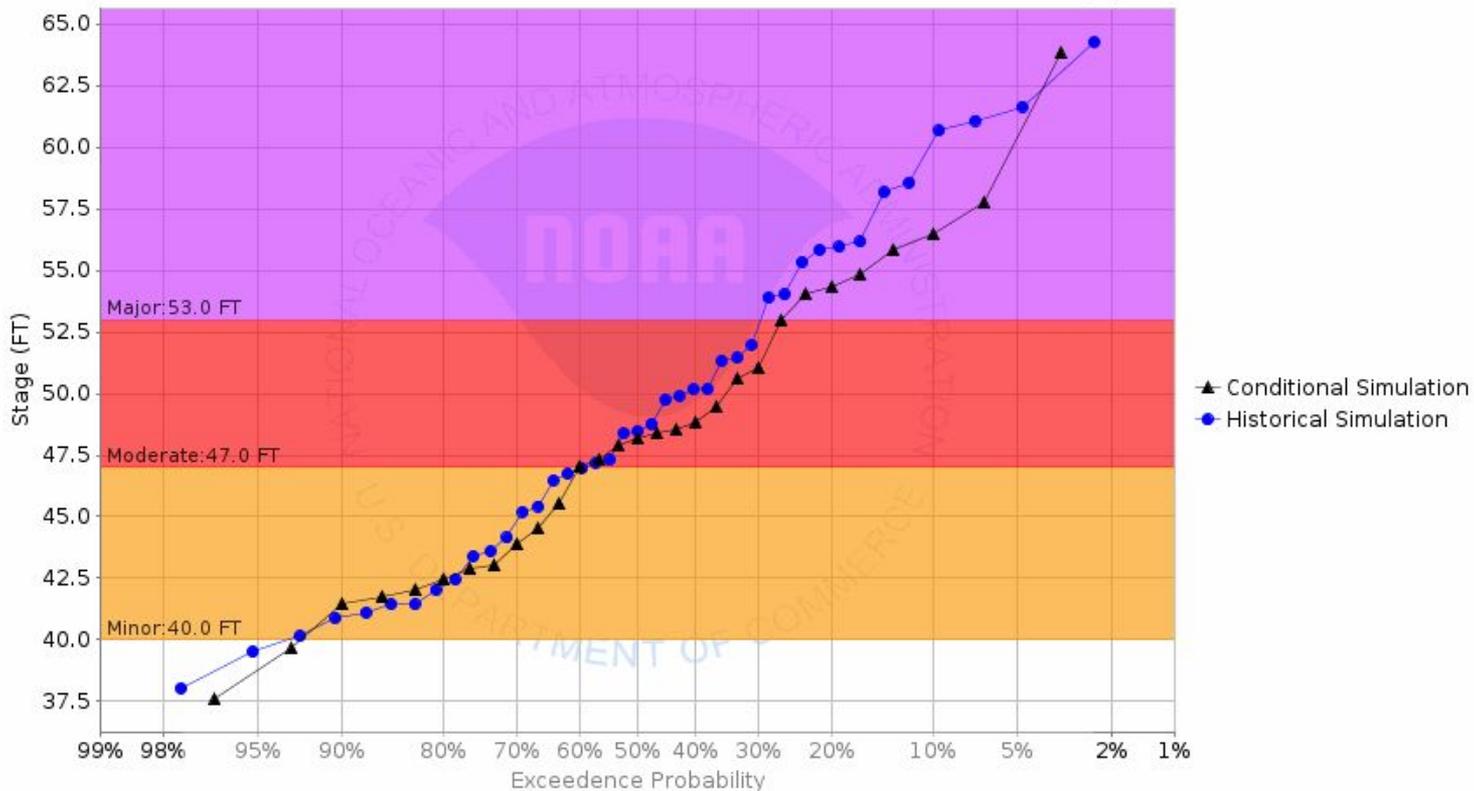
NWS St. Louis



Spring Flood Outlook 2022 - Ohio River at Cairo, IL

Chance of Exceeding River Stage at CIRI2
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



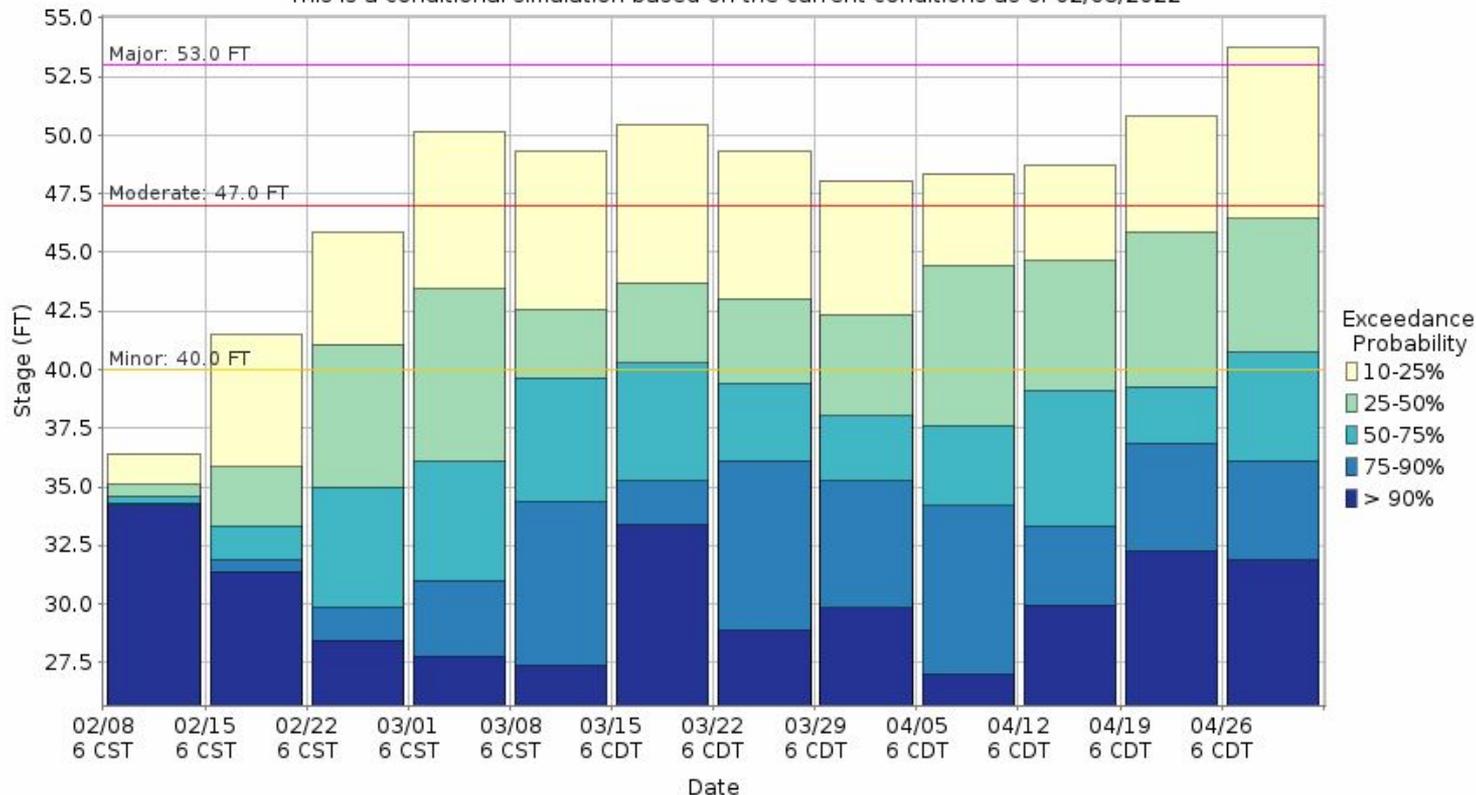
NWS St. Louis



Spring Flood Outlook 2022 - Ohio River at Cairo, IL

Weekly Chance of Exceeding River Stage at CIRI2
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



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How confident should we be in this forecast?

http://www.weather.gov/crh/rfc_ensemble

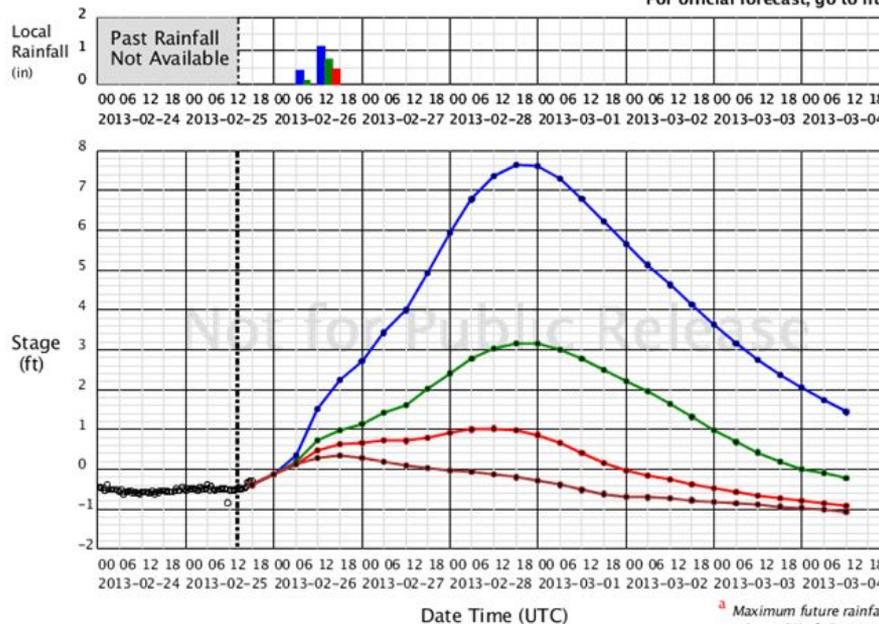
Spring Flood Outlook 2022 - Contingency/Ensemble Forecasts 24 hours QPF

Preliminary River Model Output – Use with Caution

NCRFC Ensemble Model Output
EADM7 -- Mississippi River -- St Louis (Eads Bridge), MO

This product has not been reviewed by NWS Forecasters

For official forecast, go to <http://water.weather.gov/ahps>



River Model Output with 24 hrs Future Rainfall

- Maximum^a Future Rainfall (24 hour)
- Best Estimate^b Future Rainfall (24 hour)
- Minimum^c Future Rainfall (24 hour)
- Zero Future Rainfall (24 hour)

●●●●● Observed Values

- Major Stage = 40 ft.
- Moderate Stage = 35 ft.
- Minor Stage = 30 ft.
- Flood Stage = 30 ft.

^a Maximum future rainfall – 95th percentile, or the amount of precipitation has a 5% of chance of being reached/exceeded.

^b Best estimate future rainfall – 50th percentile, or the amount of precipit having a 50% chance of being reached/exceeded.

Graph Creation Date: Mon, 25 Feb 2013 18:10:45 +0000 UTC

NWS St. Louis



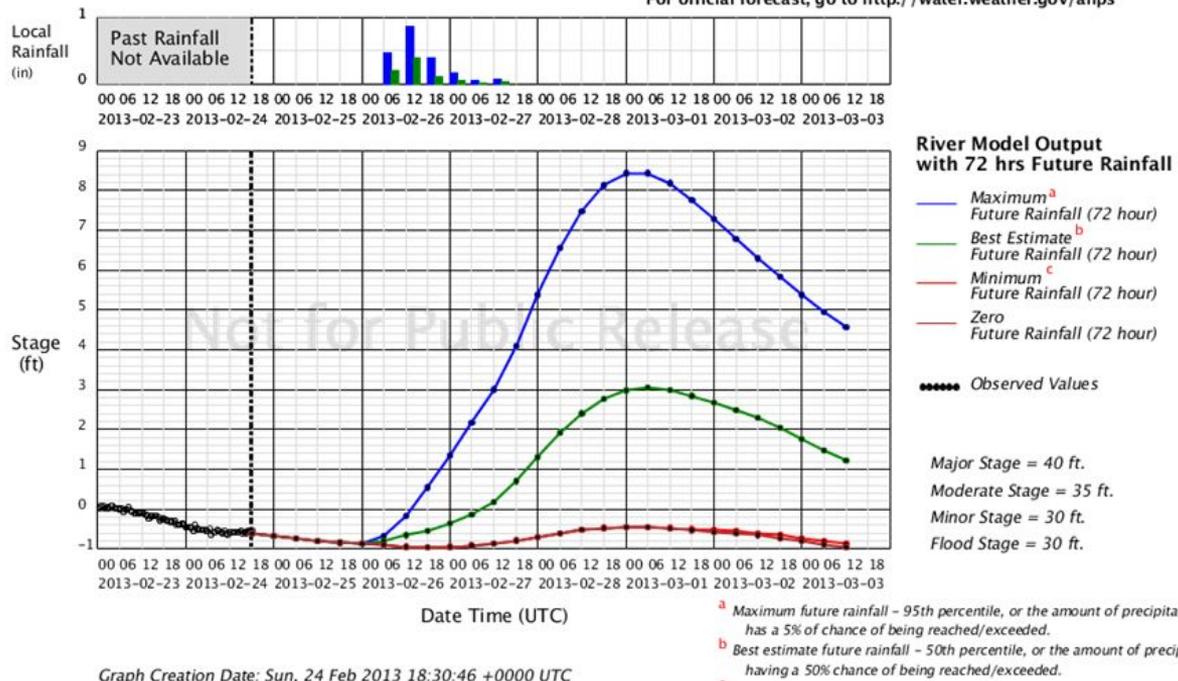
Spring Flood Outlook 2022 - Contingency/Ensemble Forecasts 72 hours of QPF

Preliminary River Model Output – Use with Caution

NCRFC Ensemble Model Output
EADM7 -- Mississippi River -- St Louis (Eads Bridge), MO

This product has not been reviewed by NWS Forecasters

For official forecast, go to <http://water.weather.gov/ahps>



NWS St. Louis





Observed Precipitation

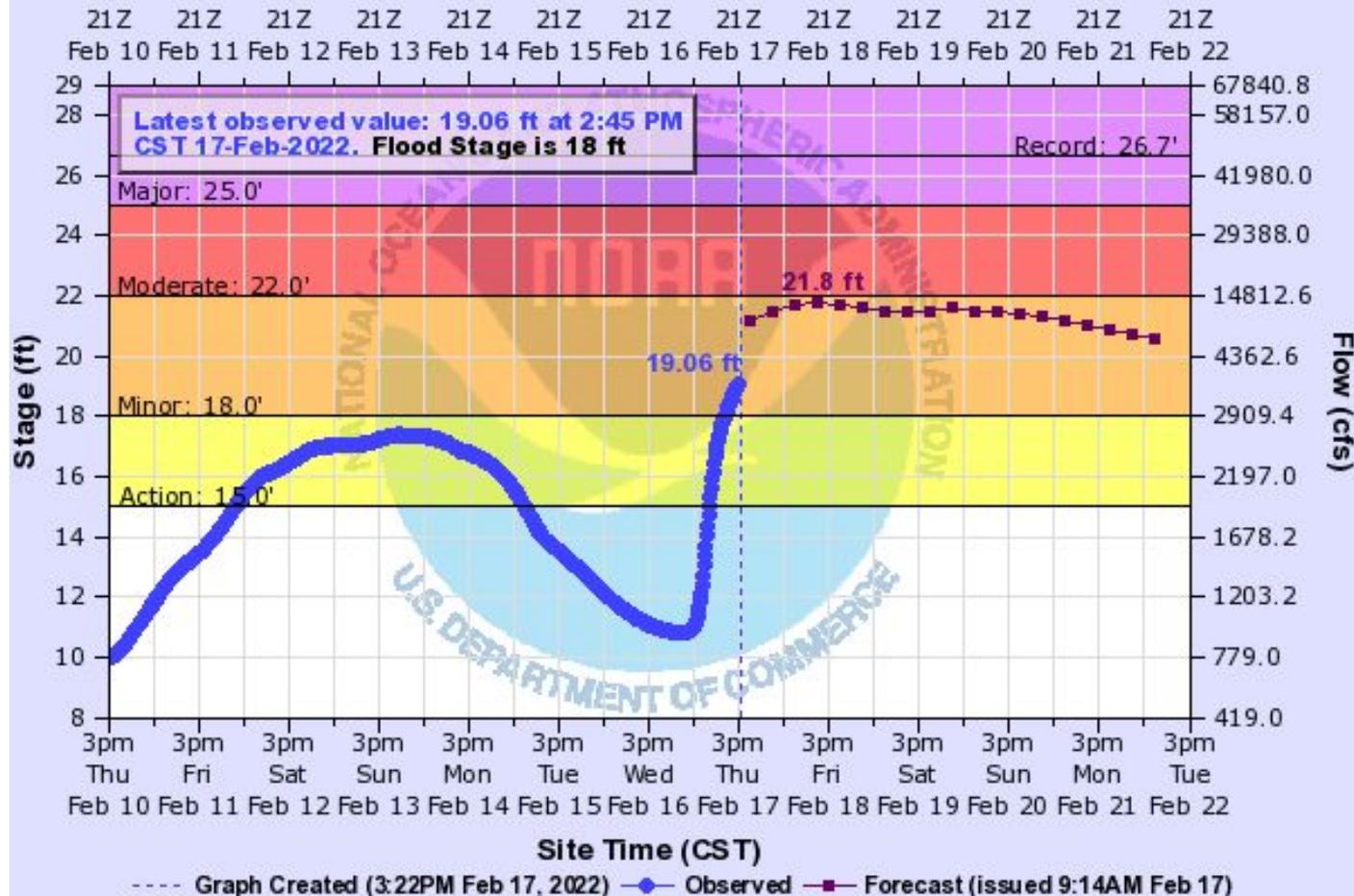
Valid Ending Thursday February 17th, 2022 at 2 PM CST



Graphic Created
February 17th, 2022
2:40 PM CST

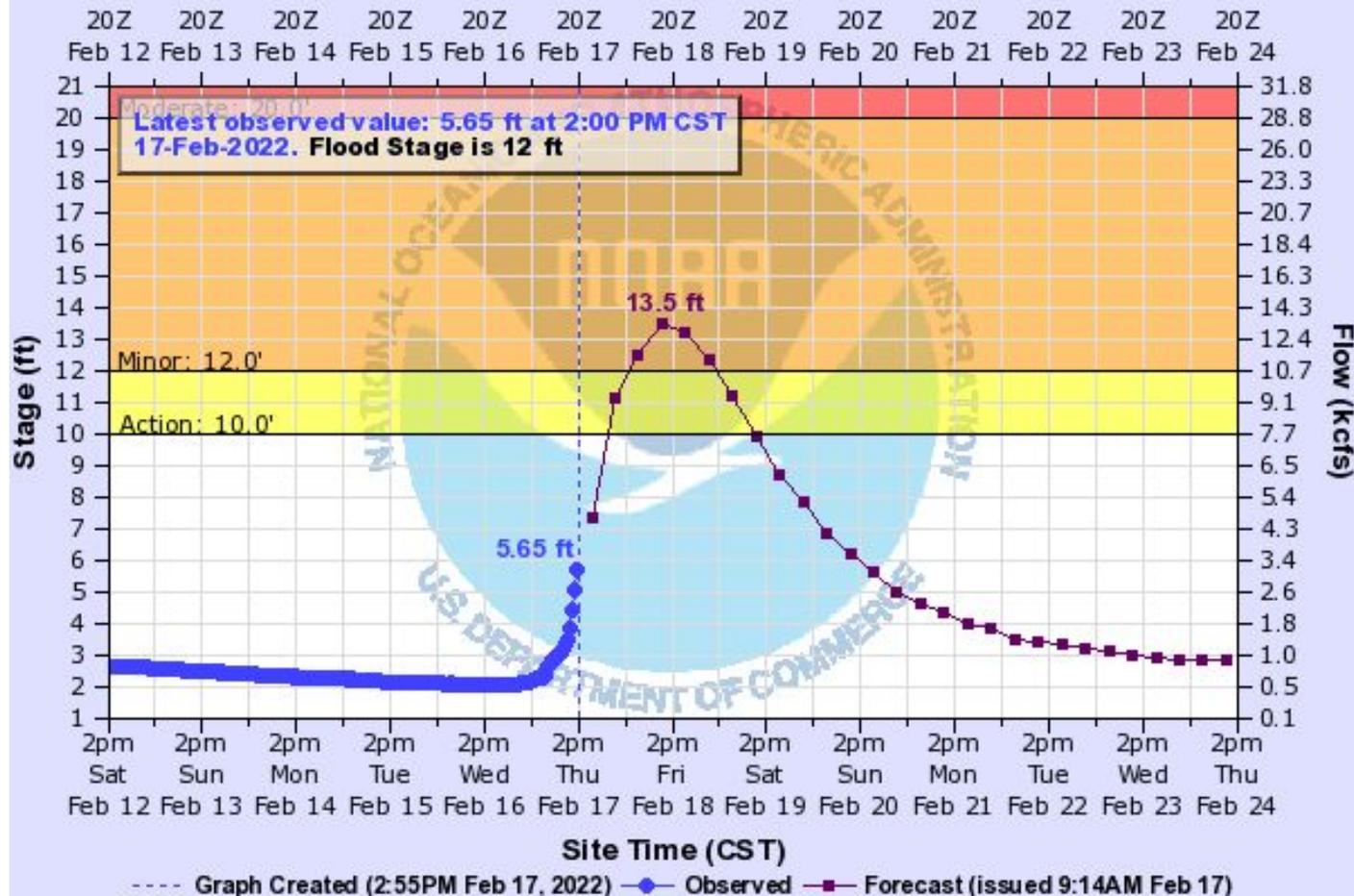
LITTLE WABASH RIVER BELOW CLAY CITY

Universal Time (UTC)



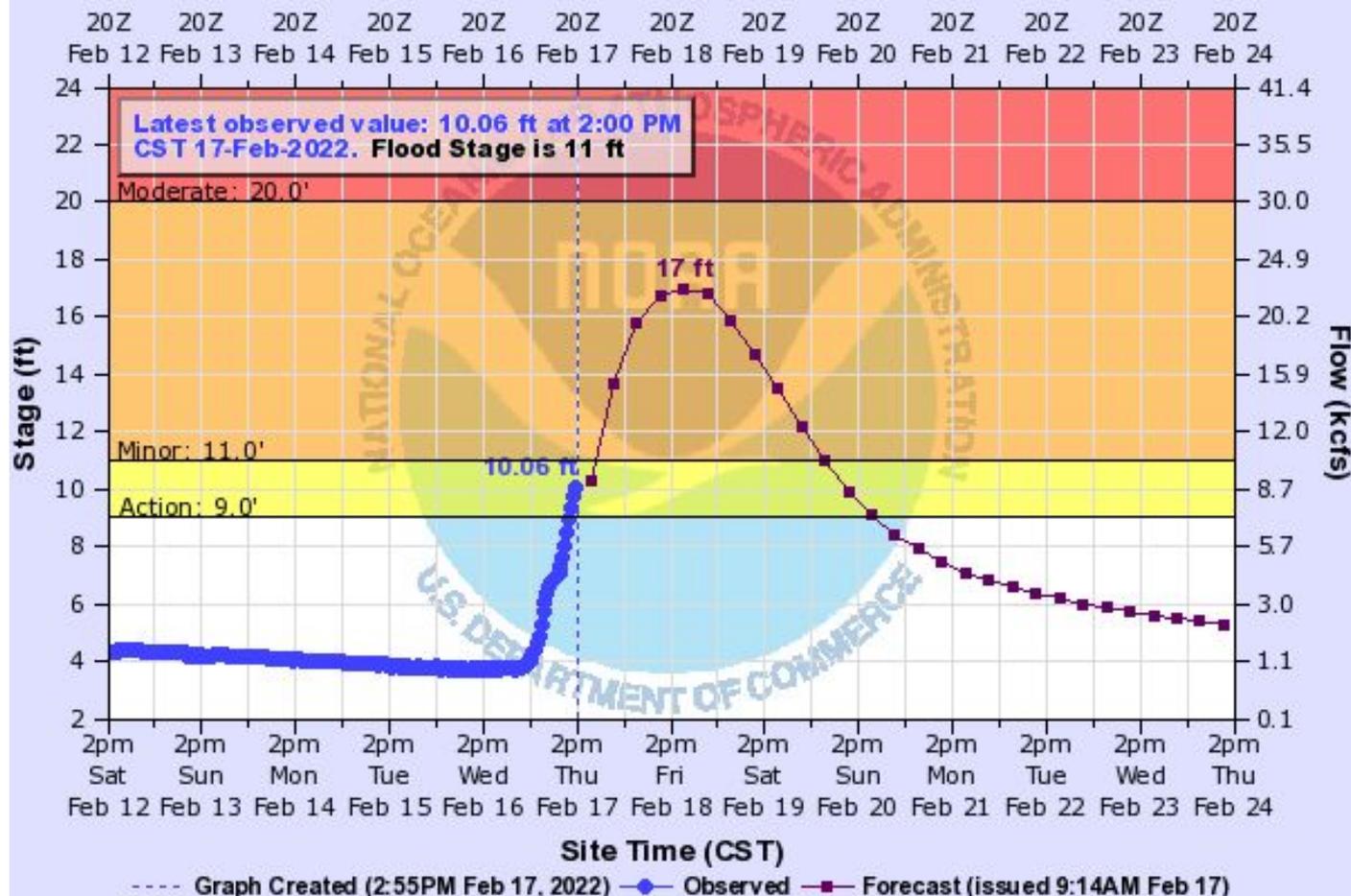
MERAMEC RIVER NEAR STEELVILLE

Universal Time (UTC)



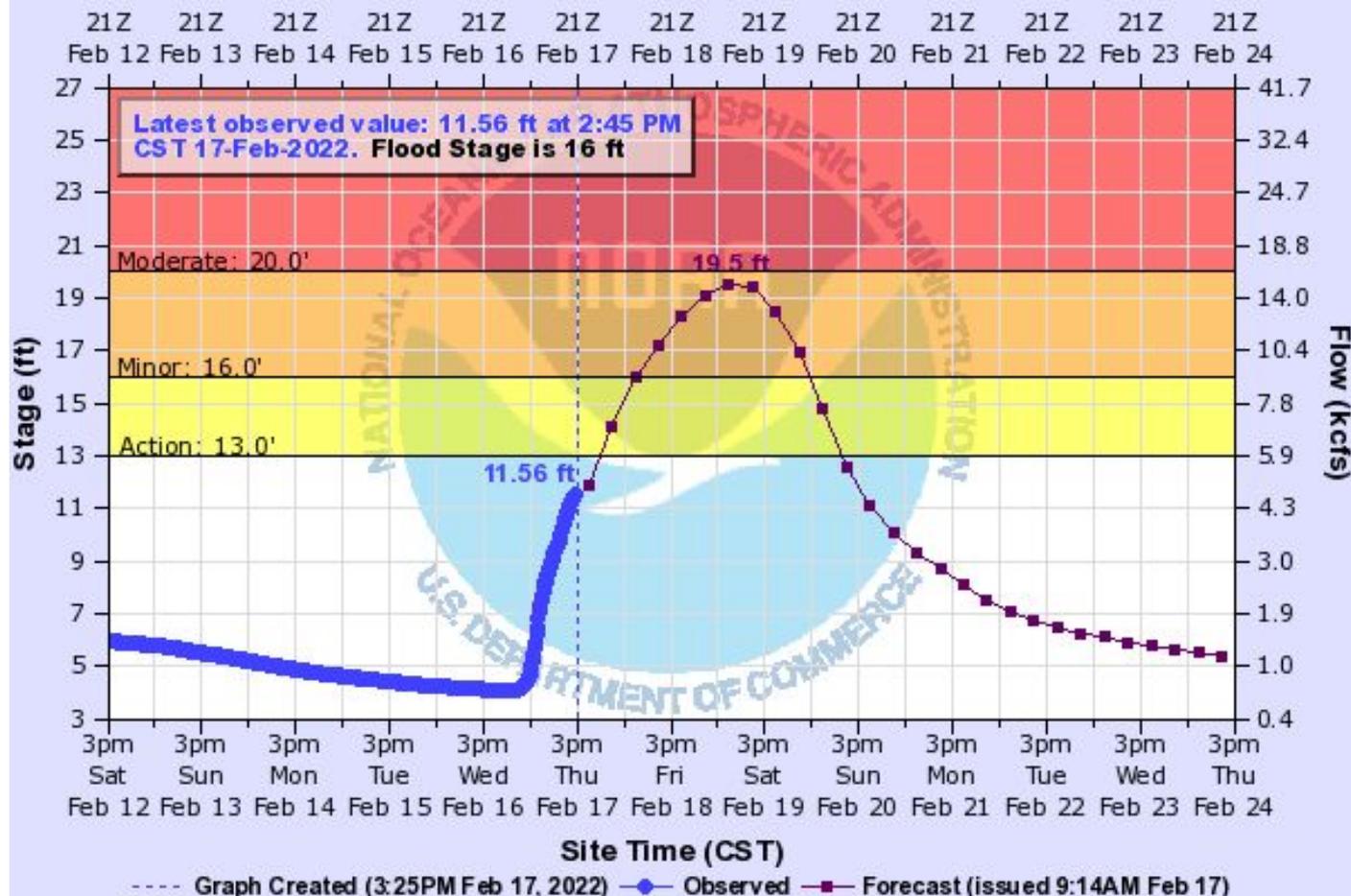
MERAMEC RIVER NEAR SULLIVAN

Universal Time (UTC)



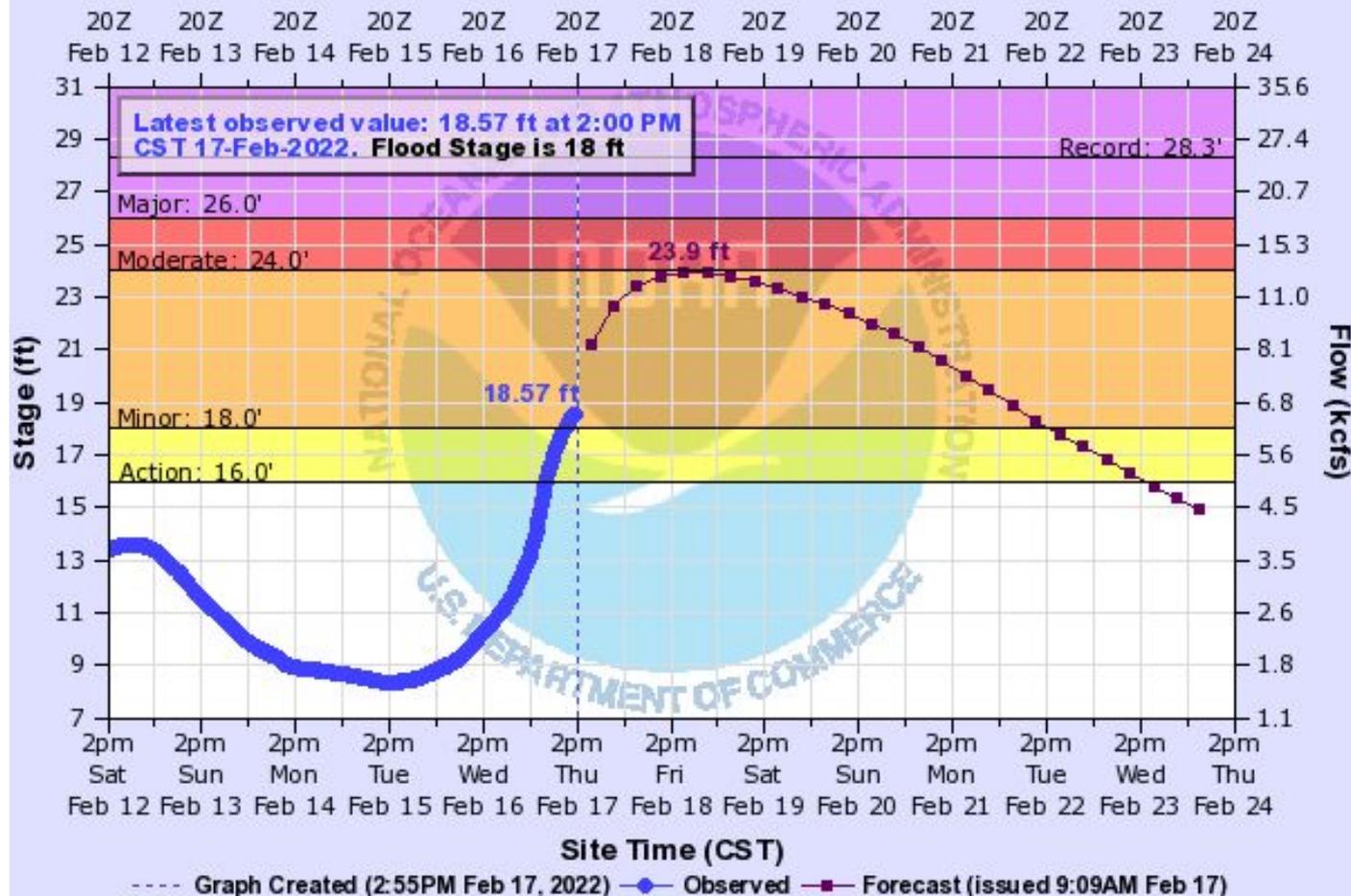
BIG RIVER AT BYRNESVILLE

Universal Time (UTC)



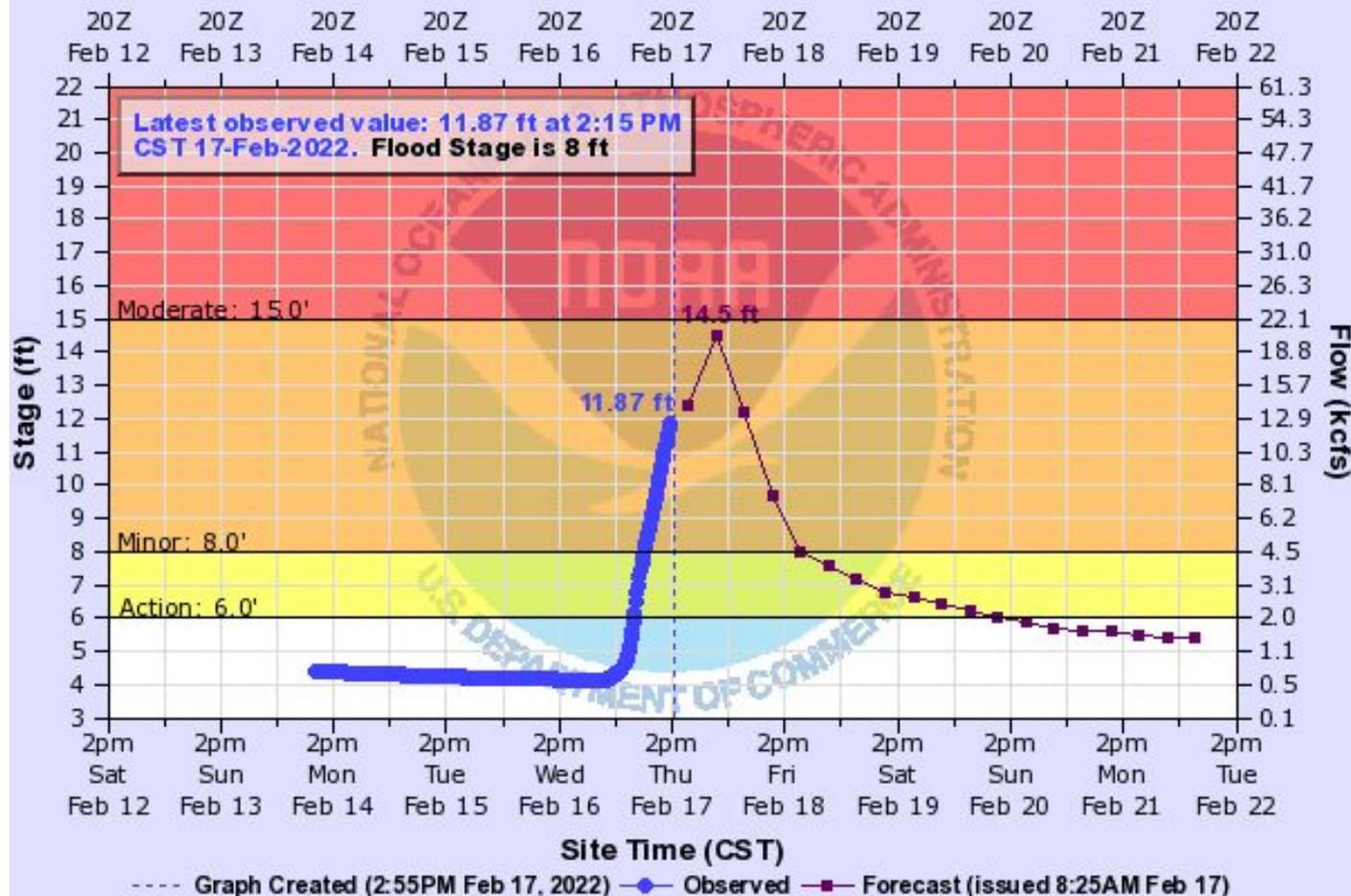
KASKASKIA RIVER AT VANDALIA

Universal Time (UTC)



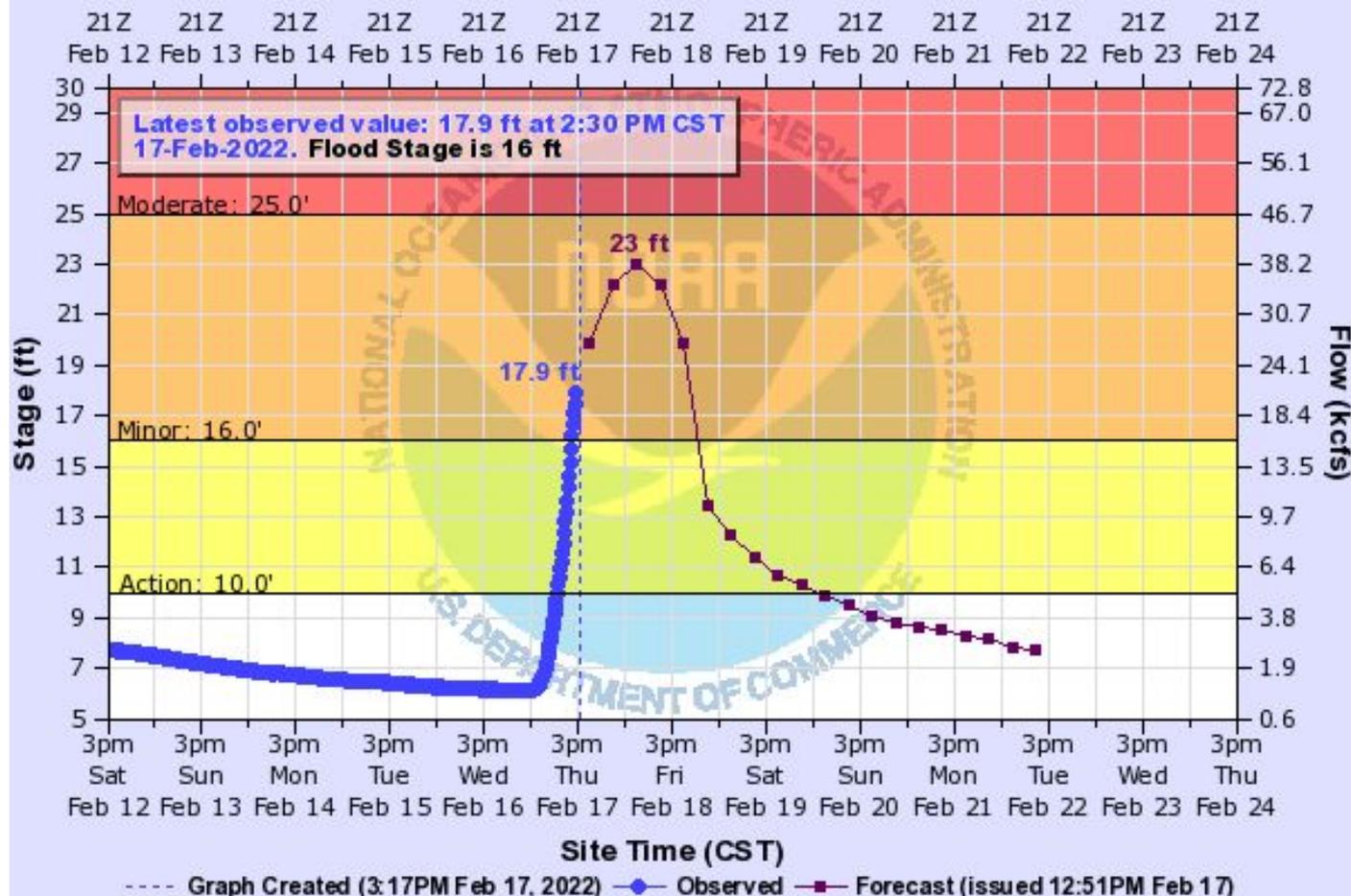
BLACK RIVER NEAR ANNAPOLIS

Universal Time (UTC)



ST. FRANCIS RIVER AT PATTERSON

Universal Time (UTC)



Questions???

Darrin Hansing
Service Hydrologist
NWS WFO Lincoln, IL
darrin.hansing@noaa.gov
217-732-7489, ext. 493

Mark Fuchs
Service Hydrologist
NWS WFO St. Louis, MO
mark.fuchs@noaa.gov
636-447-1876, ext. 493

Mary Lamm
Service Hydrologist
NWS WFO Paducah, KY
mary.lamm@noaa.gov
270-744-0321, ext. 493